ORDER NO. VRD9003M105

Service Manual

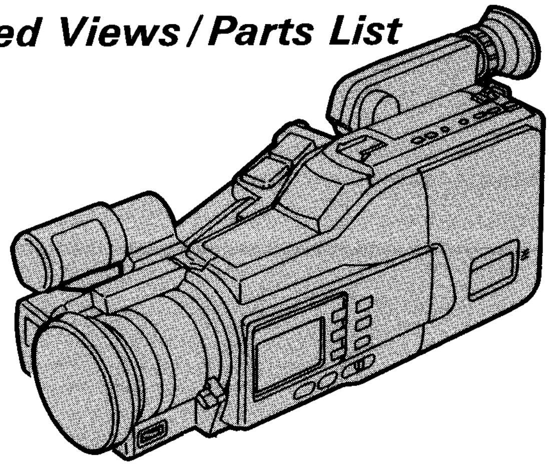
Panasonic S-VHS-C VHS PAL 625

Hi-Fi HQ

S-VHS-C Movie

NV-MS90E/EG B/EP

General Description
Adjustment Procedures
Block/Schematic Diagrams
Exploded Views/Parts List



SPECIFICATIONS

ITEM	SPECIFICATION
POWER	Source: BATTERY; DC 9.6 V Consumption; Recording mode; 10.3 W (Battery operation)
VIDEO RECORDING SYSTEM	4 rotary heads, helical scanning system PAL
FM AUDIO RECORDING SYSTEM	4 rotary heads, helical scanning system
TAPE FORMAT	S-VHS-C, VHS-C Cassette Tape (Tape width 12.7 mm)
TAPE SPEED	SP mode: 23.39 mm/s LP-mode: 11.70 mm/s Record/Playback Time SP mode: 45 min. with NV-SEC45 LP mode: 90 min. with NV-SEC45 FF/REW Time Approx. 4.5 min. with NV-SEC45
CAMERA	PICK-UP ELEMENT: CCD (Charge Coupled Device)
	STANDARD ILLUMINATION: 1,400 lux
	MINIMUM REQUIRED ILLUMINATION: 9 lux
	LENS: Built-in 8 : 1, 2 Speed Power Zoom Lens with MACRO Auto Focus Function, Auto Iris, Auto Focus System, F1.2 (8.5～68 mm), Lens Front Diameter/ϕ49 mm Filter Diameter 49 mm
	IMAGE SENSOR: 1/2 inch CCD Image Sensor
	VIEW FINDER: 2/3″ Electric View Finder

ITEM	SPECIFICATION
VIDEO	HEADS: 8 rotary heads, 1 flging erase head
	OUTPUT: PHONO CONNECTOR; 1.0 Vp-p 75Ω unbalanced S-Video out terminal 1.0 Vp-p 75Ω unbalanced
AUDIO	HEAD: 1 Stationary head (Normal Audio)
	INPUT: MIC IN (M3); −70 dB, 4.7 kΩ unbalanced
	OUTPUT: PHONO CONNECTOR; −8 dB 600Ω unbalanced
WEIGHT	Approx. 1.6 kg (without Battery Pack)
DIMENSIONS	128(W) × 141(H) × 349(D) mm
STANDARD ACCESSORIES	1 pc. AV Output Cable 1 pc. AC Adaptor (VW-AMC2) 1 pc. Battery Pack 1 pc. Shoulder Strap 1 pc. RF Adaptor (VW-RF7E: NV-MS90B only) 1 pc. Battery for Clock Operation 1 pc. Cassette Adaptor (VW-TCA7) 1 pc. S-VHS-C Video Cassette 1 pc. Soft Case (VW-CB5E: NV-MS90B only) 1 pc. System Carrying Case (VW-SHMC20E: NV-MS90B/EP only) 1 pc. DIN RF Cable (NV-MS90B only) 1 pc. BNC/PHONO Adaptor Plug 1 pc. S-Video Cord 1 pc. Battery for Cassette Adaptor Operation 1 pc. VITC Generator (NV-MS90E/EG/EP only) 1 pc. Shoe Adaptor

Weight and dimensions shown are approximate.
Specifications are subject to change without notice.

Panasonic

Matsushita Electric Industrial Co., Ltd.
Central P.O. Box 288, Osaka 530-91, Japan

INTRODUCTION

This service manual contains technical information which will allow service personnels to understand and service this model.
Section 1 presents you with some general information of features and controls, enabling you to become familiar with each function.
Section 2 contributes to your mechanical and electrical adjustment as well disassembly and replacement procedures.
In the case of very common information relating to other models like mechanical adjustments, please refer to each service manual.
Section 3 contains block diagrams which offers you information for checking and understanding each circuit. Schematic diagrams which give you detailed information such as waveforms, voltage data, function e.t.c...
Section 4 contains exploded views and parts list.
Please place orders using the parts list and not the drawing reference numbers.
If the circuit is changed or modified, this information will be followed by supplementary service manual to be filed with original service manual.

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Technical Information

Service Caution

1. Service of the VTR Section

When servicing the VTR section, connection of the extension cables and Y/C separator are necessary as shown below.

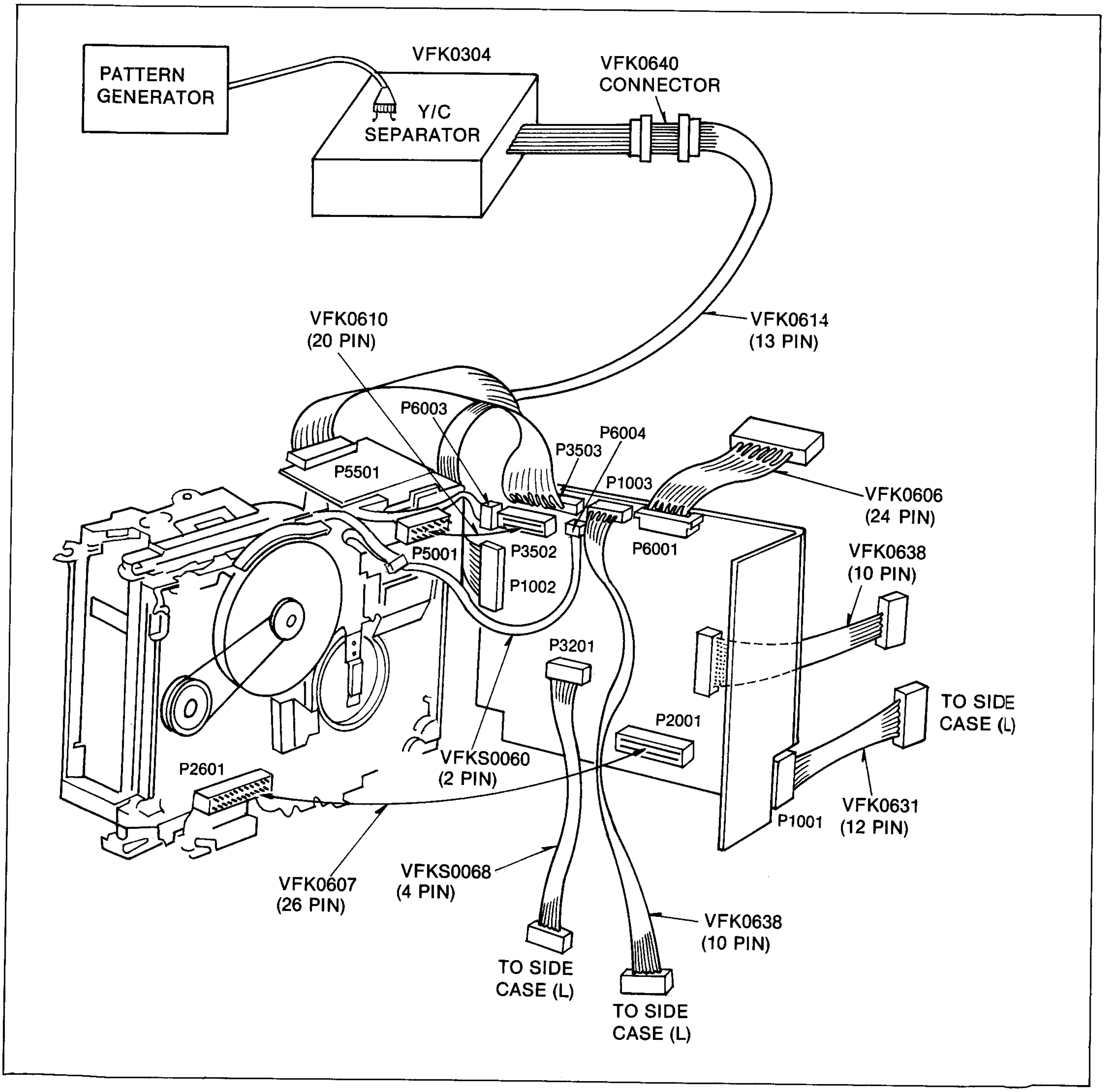

PATTERN GENERATOR
VFK0304
Y/C SEPARATOR
VFK0640 CONNECTOR
VFK0614 (13 PIN)
VFK0610 (20 PIN)
P6003
P5501
P3503
P6004
P1003
VFK0606 (24 PIN)
P5001
P3502
P1002
P6001
VFK0638 (10 PIN)
P3201
TO SIDE CASE (L)
P2001
VFKS0060 (2 PIN)
P2601
P1001
VFK0631 (12 PIN)
VFK0607 (26 PIN)
VFKS0068 (4 PIN)
VFK0638 (10 PIN)
TO SIDE CASE (L)
TO SIDE CASE (L)

Fig. S1

2. Service of the Camera Section

When servicing the Camera Section, connection of 18Pin Extension Cable and 22Pin Extension cable are necessary as shown below.

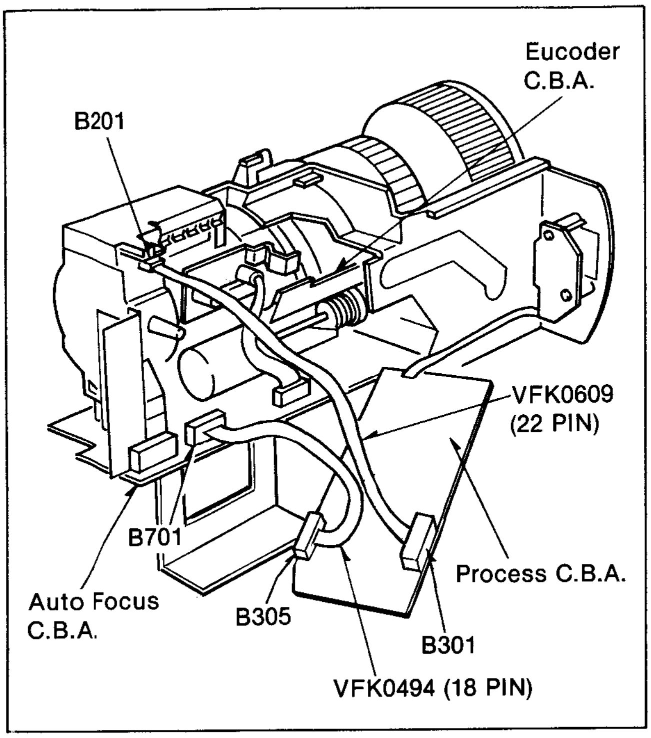

Eucoder
C.B.A.
B201
VFK0609
(22 PIN)
Process C.B.A.
B701
Auto Focus
C.B.A.
B305
B301
VFK0494 (18 PIN)

Fig. S2

3. HOW TO USE CAMERA HOLDER ARM (VEK0431)

This Camera Holder Arm which is adjustable the span must be mounted to VFK0382 and it can be used with VFK0432 for camera adjustments or checking.

(A)	---	VFK0432	Holder Spacer (2pcs)
(B)	---	VFK0431	Camera Holder Arm
(C)	---	XSN2+16	Screw (2pcs.)
(D)	---	VFK0382	Camera Holder

(1) Fix the Holder Arm (4) and (5) temporarily by screw (1) as shown in Fig. S3.
(2) Mount the Camera Holder Arm (B) to the Camera Holder (D) by screws (2) and (3) as shown in Fig. S3.
(3) Tightn the screws (C) with the Holder Spacers (A) as shown in Fig. S4.

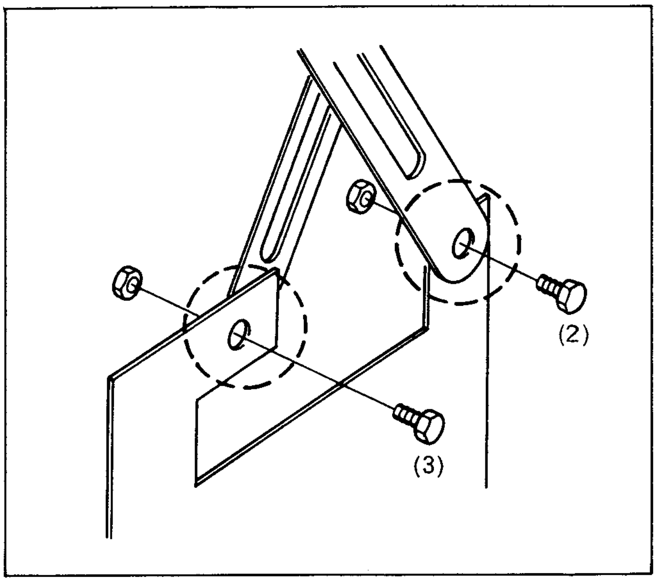


Fig. S4

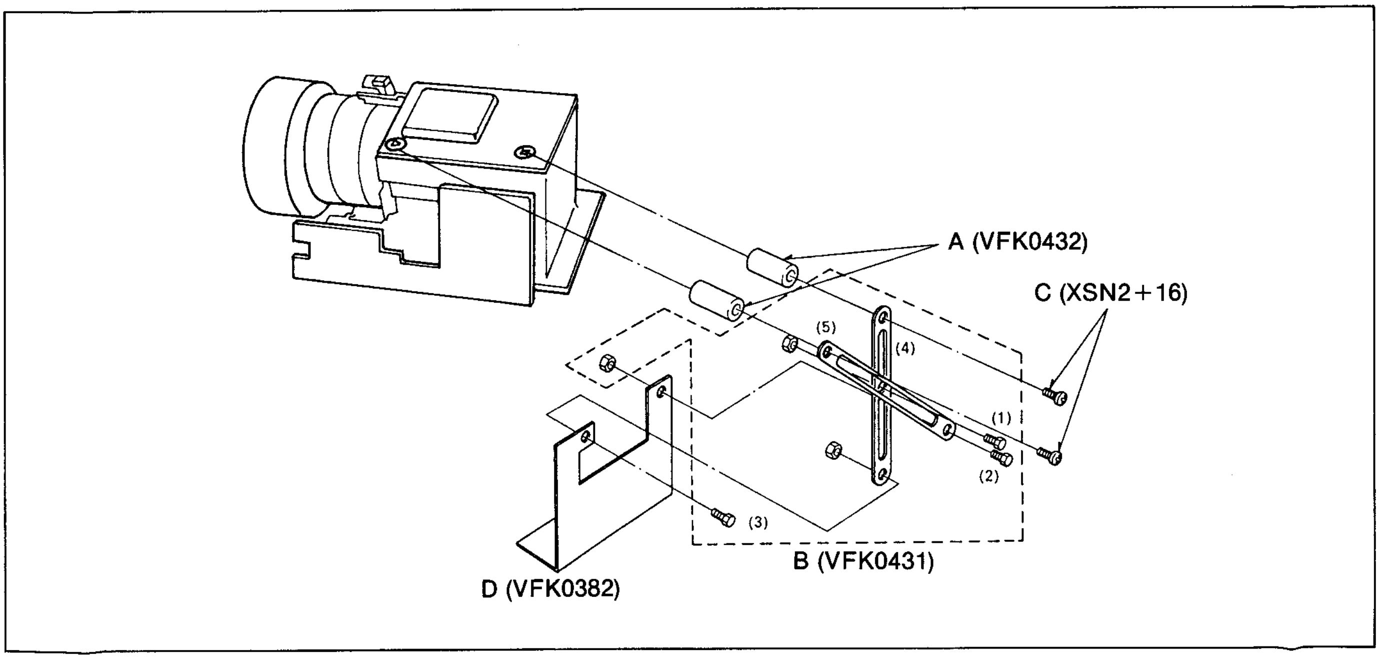

A (VFK0432)
C (XSN2+16)
(5)
(4)
(1)
(2)
(3)
B (VFK0431)
D (VFK0382)

Fig. S3

4. Set Tracking Control to the Fixed position

If the Tracking Control is required to be in the fixed (neutral) position, push both of the tracking Control Up/Down Switchs, on the Main C.B.A., in at the same time in Playback Mode.

5. Manual Eject–Tape in and Carriage closed

1. Remove Cassette Cover by removing 2 Screws.
2. Push on upper end of Lock Lever to release cassette carriage.

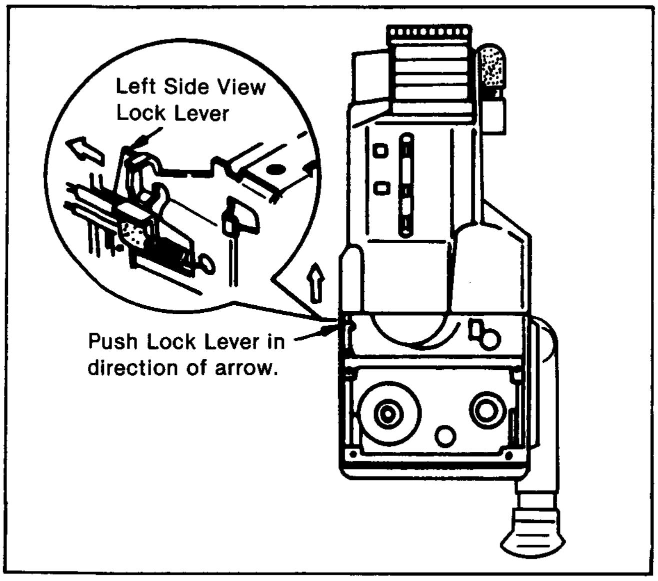


Fig.S5

6. Elimination of Tape slack

Before inserting the Cassette Tape in the VHS–C Movie, take up slack in the tape by turning the Takeup Tape Gear on the side of the Cassette Tape. Turn it in the direction of the arrow until no slack is evident and opposite reel begins to turn.

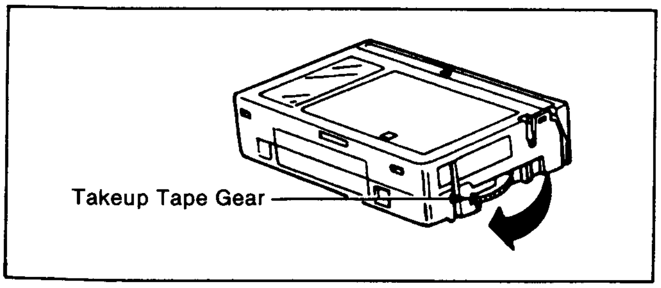


Fig.S6

7. Insertion (or Removal) of cassette Tape

As in Fig. 5, hold the tape vertically with fingers and thumb to insert or remove the tape. (Be sure to eliminate slack before inserting the tape.)

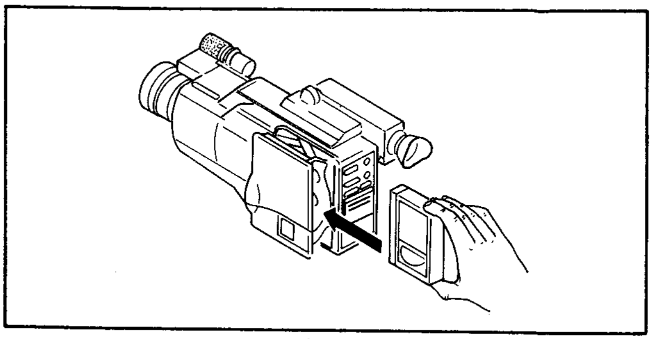


Fig.S7

8. Connection of the Flexible Cables to Trap Connectors

a. Removal

1. On the trap Connector, pull out on both ends of the Locking Tab Surrounding the cable end to release the Trap on the Connector. Then pull Flexible Cable out to remove as shown in Fig. 6.

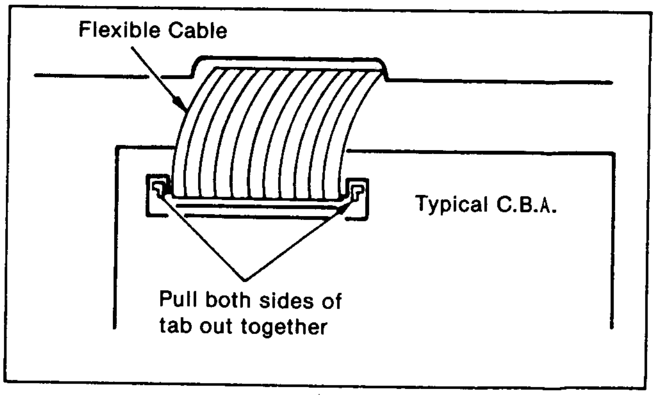


Fig.S8

b. Installation

1. Insert the end of the Flexible Cable into the Trap Connector so it lays smoothly across the slot.
2. Press the middle of the cable firmly against the Trap Connector slot, and hold it securly.
3. Without pinching the Cable, press the Locking Tabs in against the Trap Connector until both ends snap into their locked positions.
4. Pull lightly on the Cable to check for positive connection.

Note:
1. Take care when removing or installing the Flexible Cable to prevent Cable damage.

SERVICE INFORMATION

1-1.HOW TO CHECK THE CRACKED CHIP PART

(1) Apply heat to the soldered portions of chip part using a soldering iron for about 2–3 seconds.
(2) If the chip part is faulty,it will be broken or cracked.

Caution: Do not leave soldering iron on the PCB too long as damage may occur to the PCB or the chip parts.

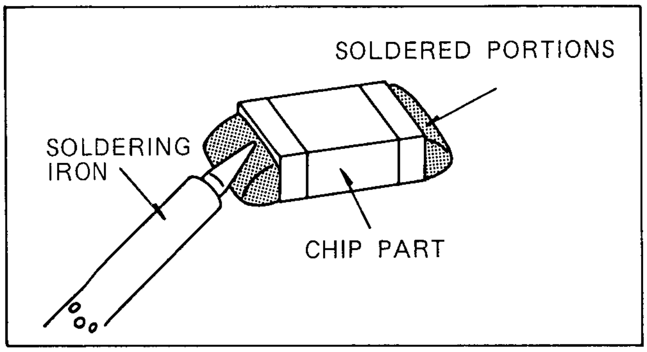

SOLDERED PORTIONS
SOLDERING IRON
CHIP PART

FIG. G1

Note: Regarding intermittent faults
The main causes of these faults are poor soldering and cracked chip parts.

1-2.HOW TO REPLACE THE CHIP PART

1) REMOVAL (RESISTOR, CAPACITOR, etc...)

(1) Presolder the one side of soldering portion for chip part and grasp the chip part by tweezers.

(2) Melt the presoldered portion. And then remove the chip part with a twisting motion while melting the soldering portion of another side quickly.

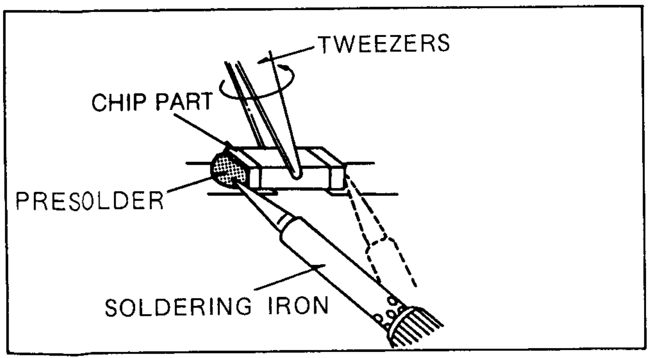

TWEEZERS
CHIP PART
PRESOLDER
SOLDERING IRON

FIG. G2

2) REMOVAL (transistor, diode, etc...)

(1) Grasp the chip part with tweezers and melt the solder of one lead.

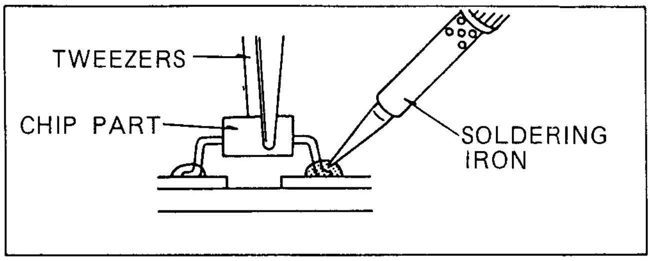

TWEEZERS
CHIP PART
SOLDERING IRON

FIG. G3

(2) Lift the side of that lead upward.

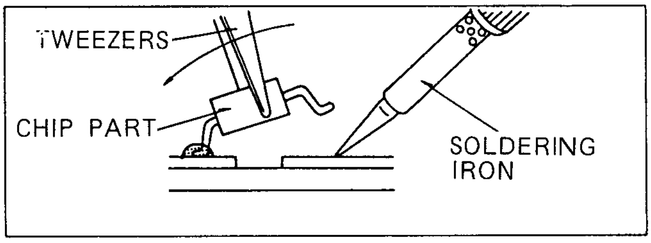

TWEEZERS
CHIP PART
SOLDERING IRON

FIG. G4

Caution: Do not lift the chip part too high as damage may occur to the PCB or the leads that are still soldered on the PCB.

(3) Simultaneously heat the solder of the two remaining leads and lift part to remove.

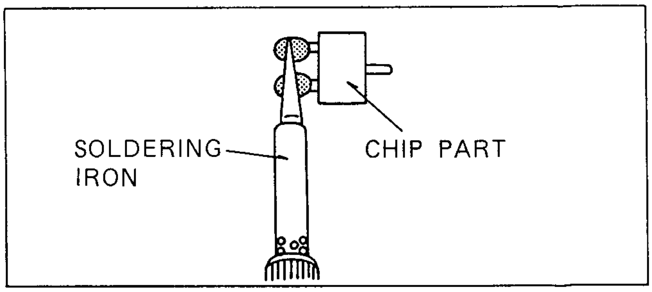

SOLDERING IRON
CHIP PART

FIG. G5

3) INSTALLATION

(1) Presolder the one side of contact point on the circuit board.

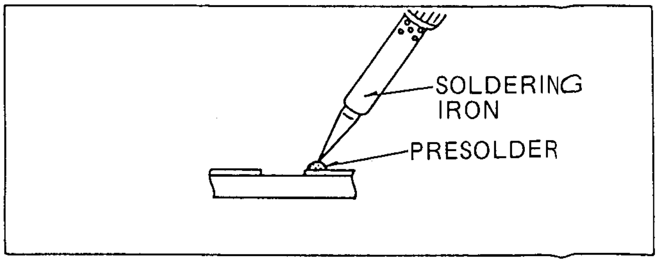

SOLDERING IRON
PRESOLDER

FIG. G6

(2) To install the chip part,hold in position using tweezers, apply heat to the pre-soldered portions using a fine tip soldering iron.
(3) Solder the other side of the chip part.
(4) Check your soldering.

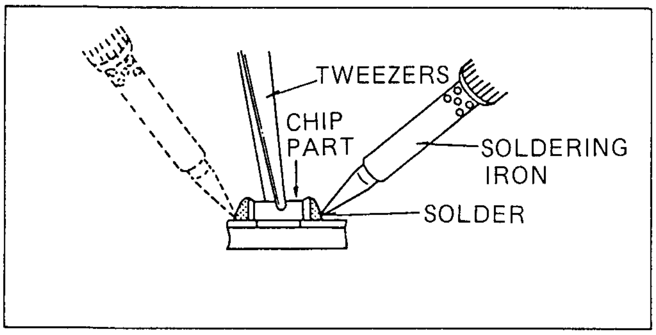

TWEEZERS
CHIP PART
SOLDERING IRON
SOLDER

FIG. G7

1-3.HOW TO REMOVE THE FLAT-IC

(WITH HOT-AIR FLAT-IC DESOLDERING MACHINE)

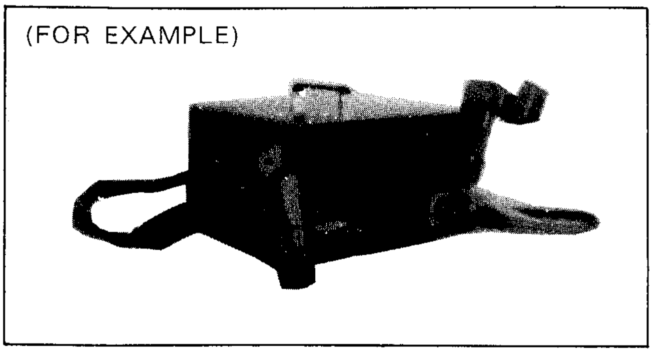

(FOR EXAMPLE)

FIG. G8

(1) Prepare the HOT-AIR FLAT-IC DESOLDERING MACHINE. And then apply hot air to FLAT-IC about 5 ~ 8 seconds.

(2) Remove the FLAT-IC with tweezers while applying the hot air.

Caution: Do not supply the hot air to the chip parts around the Flat-IC for long time as as damage may occur to the chip parts around the Flat -IC.

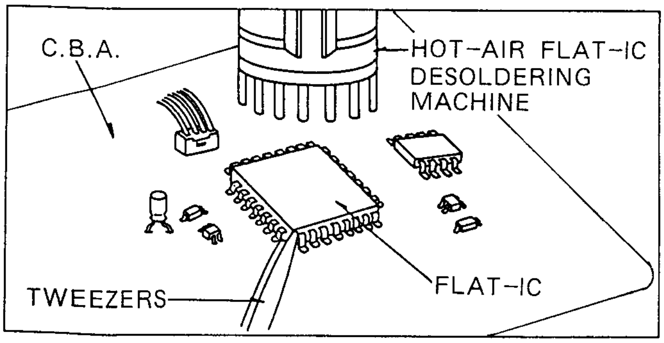

C.B.A.
HOT-AIR FLAT-IC DESOLDERING MACHINE
TWEEZERS
FLAT-IC

FIG. G9

(WITH SOLDERING IRON)

(1) Using solder braid remove the solder from all pins of the Flat-IC.
When you use the solder flux which is applied to all pins of the Flat-IC,you can remove it easily.

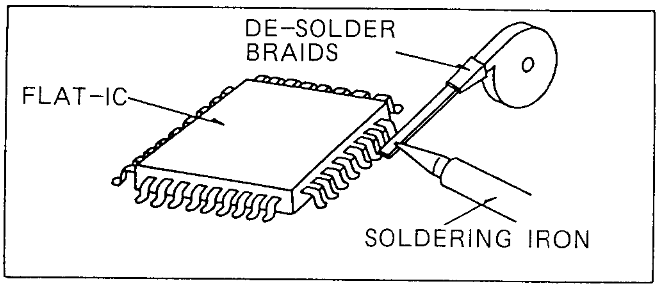

DE-SOLDER BRAIDS
FLAT-IC
SOLDERING IRON

FIG. G10

(2) Lift each lead of the Flat-IC upward one by one using a sharp pin or non solder wire(iron wire),while heating the pins using a fine tip soldering iron or a hot air blower.

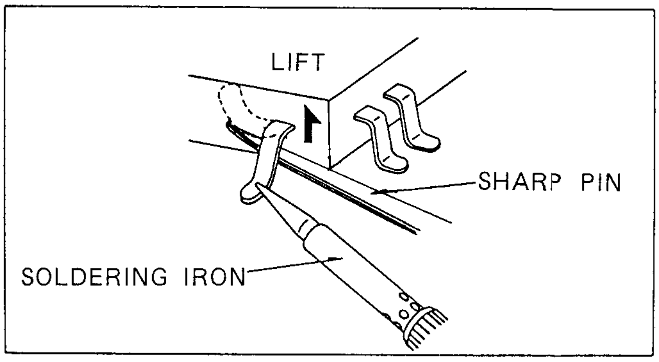

LIFT
SHARP PIN
SOLDERING IRON

FIG. G11

(WITH IRON WIRE)

(1) Affix the wire to workbench or solid mounting point as shown in FIG.G12.
(2) Pull up wire as the solder melts so as to lift the IC lead from the PCB contact pad,while heating the pins using a fine tip soldering iron or hot air blower.

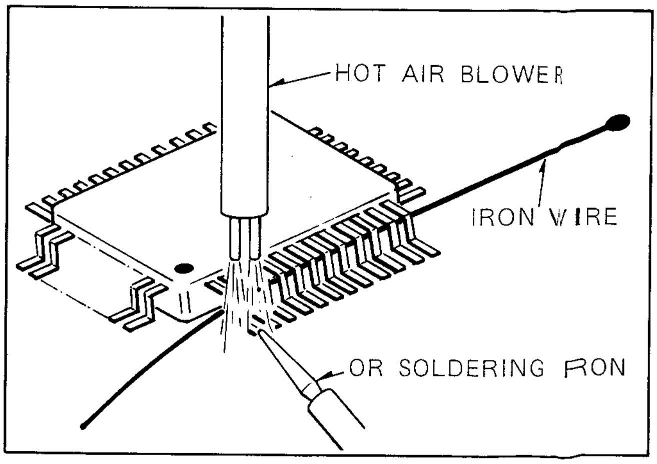
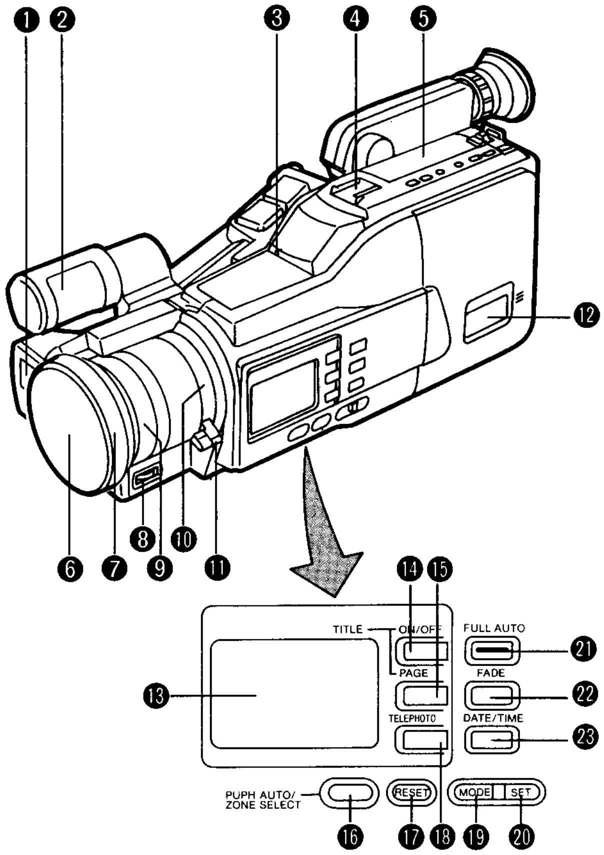

HOT AIR BLOWER
IRON WIRE
OR SOLDERING IRON

FIG.G12

Note: When using a soldering iron care must be taken to ensure that the Flat IC is not being held by glue before it is the PCB may be damaged if force is used.

SECTION 1
GENERAL DESCRIPTION

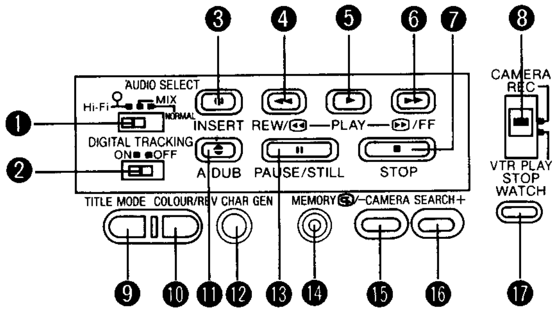
1-1. CONTROLS AND COMPONENTS



TITLE
ON/OFF
PAGE
TELEPHOTO
FULL AUTO
FADE
DATE/TIME
PUPH AUTO/
ZONE SELECT
RESET
MODE
SET

❶ White Balance Sensor Window
❷ Built-in Stereo Microphone
❸ Tally Indicator
❹ Accessory Shoe
❺ General Operation Control
❻ Lens Cap
❼ Lens Hood
❽ Iris Close/Open Control
❾ Focus Ring
❿ Zoom Ring
⓫ Manual Zoom Lever with Macro Button
⓬ Cassette Compartment
⓭ LCD Display
⓮ Title Function On/Off Button
⓯ Title Page Selector Button
⓰ Push Auto/Zone Selector Button
⓱ Reset Button
⓲ Telephoto Button
⓳ Mode Selector Button
⓴ Mode Set Button
㉑ Full Auto Button
㉒ Fade Button
㉓ Date/Time Selector

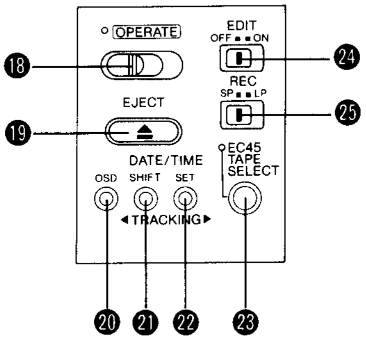
General Operation Controls



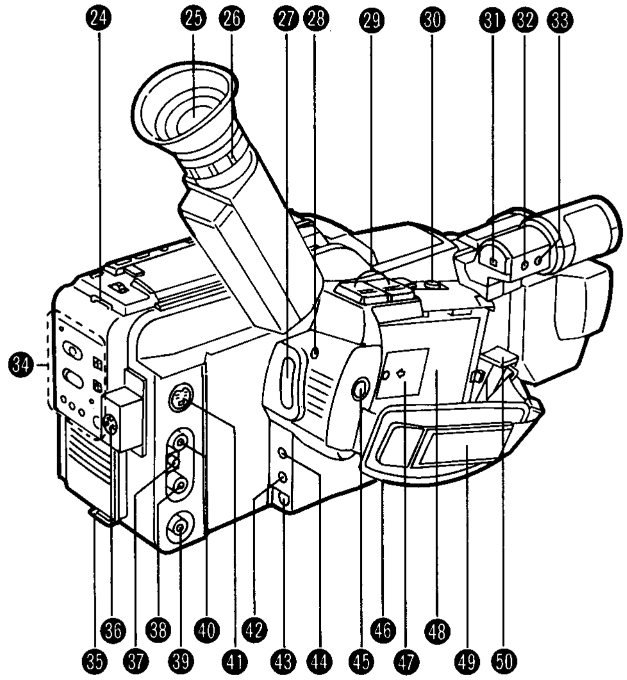
AUDIO SELECT
Hi-Fi
MIX
NORMAL
INSERT
REW/
PLAY
/FF
DIGITAL TRACKING
ON OFF
A DUB
PAUSE/STILL
STOP
CAMERA
REC
VTR PLAY
STOP
WATCH
TITLE MODE
COLOUR/REV
CHAR GEN
MEMORY
CAMERA SEARCH+

❶ Audio Selector Switch
❷ Digital Tracking Switch
❸ Insert Button
❹ Rewind/Review Button
❺ Play Button
❻ Fast Forward/Cue Button
❼ Stop Button
❽ Camera/VTR Selector Switch
❾ Titling Mode Selector Button
❿ Title Colour/Colour Reverse Selector Button
⓫ Audio Dubbing Button
⓬ Character Generator Button
⓭ Pause/Still Button
⓮ Memory Button
⓯ Camera Search (−)/Rec Review Button
⓰ Camera Search (+) Button
⓱ Stopwatch Button
⓲ Operation On/Off Switch
⓳ Eject Button
⓴ On Screen Display Button
㉑ Tracking/Date/Time Shift Button
㉒ Tracking/Date/Time Set Button
㉓ Tape Remaining Button (EC45)
㉔ Edit Switch
㉕ Recording Speed Selector

Rear Panel Controls



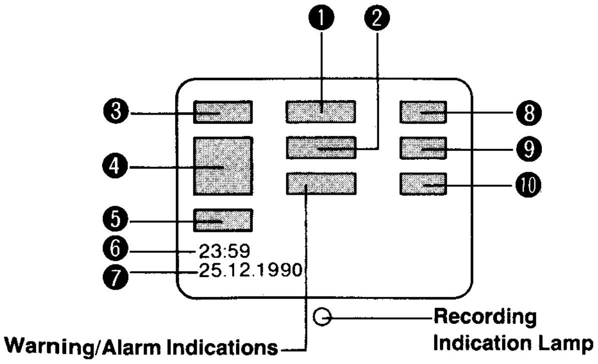
OPERATE
EDIT
OFF ON
REC
SP LP
EJECT
DATE/TIME
OSD
SHIFT
SET
TRACKING
EC45
TAPE
SELECT



㉔ Shoulder Strap Holder .....
㉕ Electronic Viewfinder .....
㉖ Eyepiece Corrector Control .
㉗ Recording Start/Stop Button
㉘ Tally Indicator ....
㉙ Power Zoom Control Buttons
㉚ Recording Start/Stop Button
㉛ Filter Selector ....
㉜ DC Power Output Socket...
㉝ External Microphone Socket
㉞ Rear Panel Controls ....
㉟ Shoulder Strap Holder .....
㊱ Edit Socket
㊲ RF DC Output Socket .....
㊳ Audio Output Socket (L) ...
㊴ Audio Output Socket (R) ...
㊵ Video Output Socket .....
㊶ S-Video Output Connector .
㊷ Headphones Socket.......
㊸ DC Input Socket ....
㊹ Remote Control Socket ...
㊺ Character Generator Socket
㊻ Tripod Mount ....
㊼ Battery Compartment for Auto Date/Clock
㊽ Battery Holder .....
㊾ Grip Belt ....
㊿ Battery Locking Lever

1-2. INDICATIONS IN THE ELECTRONIC VIEW FINDER (EVF)

The following indications are displayed in the Electronic Viewfinder (EVF) to inform you of the conditions of the Movie Camera.



Warning/Alarm Indications

BATT	There is little battery power left. Movie Camera will be turned off in a few minutes. Replace the battery pack by a fully recharged one.
TAPE	It is impossible to record because the erasure prevention tab of the cassette is not intact.
END	During recording, the tape has almost reached its end. Replace the tape with a new one. The indication will remain lit when the tape has reached its end.
DEW	When condensation has formed inside the Movie Camera, the "DEW" indication will flash and a few seconds later, the unit itself off.
⊗	Video Head Clogging

① **Remaining Battery Power/Index Indication**

E---F	The "▬" indications begin to disappear from right to left as the power of the Battery Pack weakens.
INDEX	This indication flashes when a recording is started and it indicates that an index signal is being recorded.

② **Counter Indication**

M0501	Tape Counter
1:23	Lap Time Counter

③ **Tape Remaining Indication**

④ **Digital Memory Indication**

P1	Page Indication
WHT	Colour Indication
WIPE ↑	Mode Indication (No indication in normal mode.)

⑤ **Self-Timer/Interval Indication**

SELF-20S	Self-timer recording for 20 seconds
SELF-END	Self-timer recording until the end of the tape.
INTERVAL	Recordings of approx. 1 second will be made at 5-second intervals.

⑥ **Time Indication**

⑦ **Date Indication**

⑧ **Tape Running Indications**

REC	Recording mode
PAUSE	Recording Pause mode, Rec Review
▷	Play mode, Camera Search (In forward direction)
II	Still mode
▷▷	Fast Froward/Cue mode
◁◁	Rewind/Review mode, Camera Search (In reverse direction)
INST▷	Insert Editing mode
INSTII	Insert Editing Pause mode
A.DUB▷	Audio Dubbing mode
A.DUBII	Audio Dubbing Pause mode

⑨ **S-VHS System Indications**

S	S-VHS System
" "	VHS System

Recording Mode Indications

SP	SP mode
LP	LP mode

⑩ **High Speed Shutter Mode Indications**

1/120	1/120 sec.
1/250	1/250 sec.
1/500	1/500 sec.
1/1000	1/1000 sec.
1/2000	1/2000 sec.

Manual White Balance Indications

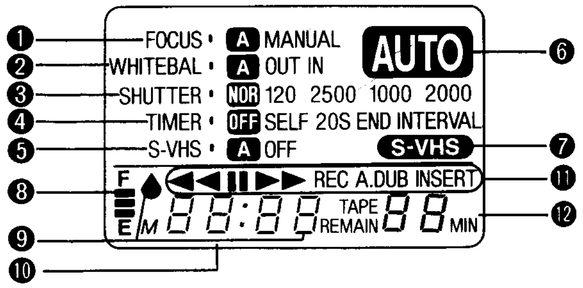
OUT	Outdoor
IN	Indoor

Telephoto Indication

TELE	Telephoto mode

- Some of the above indications may light up alternately at the same place in the EVF to indicate the corresponding operating condition or warnings.

1-3. INDICATIONS IN THE LCD DISPLAY



① **Focus Mode Indications**

A:	Auto Focus
MANUAL:	Manual Focus

② **White Balance Indications**

A:	Auto
OUT:	Outdoor
IN:	Indoor

③ **Shutter Speed Indications**

NOR:	Normal Speed
120:	1/120 sec.
250:	1/250 sec.
500:	1/500 sec.
1000:	1/1000 sec.
2000:	1/2000 sec.

④ **Self-Timer/Interval Indications**

OFF:	Off
SELF 20S:	Self-timer recording for 20 seconds
SELF END:	Self-timer recording until the end of the tape
INTERVAL:	Recordings of approx. 1 second will be made at 5-second intervals.

⑤ **S-VHS System Indications**

A:	Auto
OFF:	To make a recording in the VHS format on an S-VHS-C cassette tape.

⑥ **Full Auto Indication**

⑦ **S-VHS Mode Indication**

⑧ **Remaining Battery Power Indications**

The "▬" indications begin to disappear from top to bottom as the power of the Battery Pack weakens.

⑨ **Dew Indication (● d)**

⑩ **Counter Indications**

M0501:	Tape Counter
1:23:	Lap Time Counter

⑪ **Tape Running Indications**

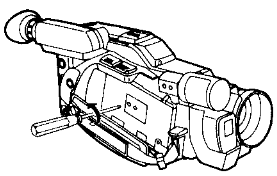
▶ REC:	Recording mode
II REC:	Recording Pause mode
▶:	Play mode, Camera Search (in forward direction)
II:	Still mode
◀◀:	Rewind/Review mode, Camera Search (in reverse direction)
▶▶:	Fast Forward/Cue mode
▶ INSERT:	Insert Editing mode
II INSERT:	Insert Editing Pause mode
▶ A.DUB:	Audio Dubbing mode
II A.DUB:	Audio Dubbing Pause mode

⑫ **Tape Remaining Indication**

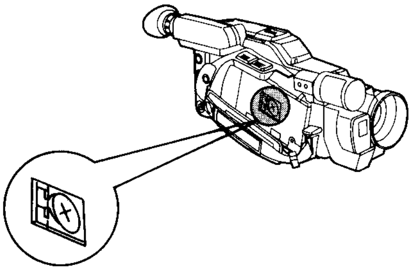
1-4. SETTING THE CLOCK

How to Insert the Battery for the Clock Operation

1 Remove the lid.



2 Insert the "CR2023" size battery with polarities (+ and −) aligned correctly and then replace the lid.



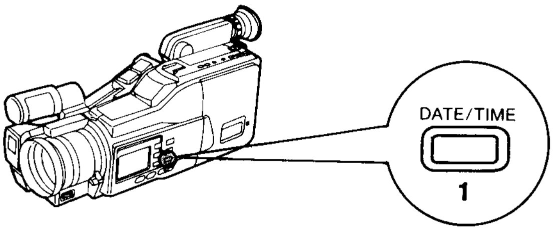
Note:

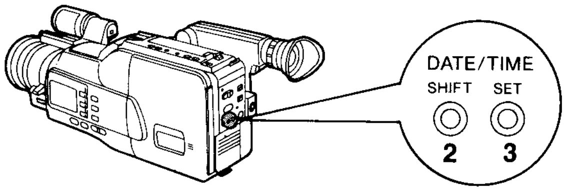
- This battery is necessary for the Date & Time, Title, S-VHS and White Balance modes to be memorized by the Movie Camera.
- If the battery is not inserted or if it is exhausted, the indication "BACKUP" in the EVF will flash for approximately 10 seconds when turning the Movie Camera on.
- When replacing the battery while the Time & Date Indications are still correct, connect the Movie Camera to the AC Adaptor for the duration of the battery replacement so that the time will remain unchanged.

CAUTION FOR BATTERY REPLACEMENT

- The life of the battery is about one year. Inspect and if necessary, replace the Battery once a year.
- Load the new battery with its polarities (+ and −) aligned correctly.
- Remove spent battery immediately and dispose of it.
- Do not try to short-circuit, recharge or heat the battery and do not throw it into a fire.

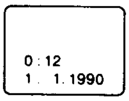
Setting of the Date and Clock





1 When the Date/Time Selector Button is pushed, the indication shown on the right will appear in the EVF.

- If no battery is inserted, the indication "BACKUP" will light up.



2 When the Shift Button is kept pressed for more than about 2 seconds, the "Year" portion will start to flash. Then, at every press of the shift Button, the items to be set will flash in the following sequence.

Year→Month→Date→Hour→Minute→**Year**→...

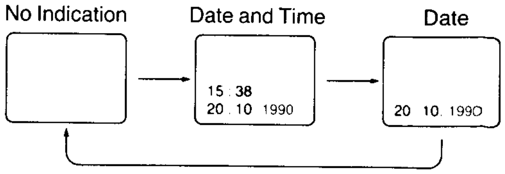
3 When the Set Button is pushed, the flashing portion displayed will be changed in the following sequence.

YEAR: **1990**→1991→ .... →2088→**1990**→...
MONTH: **1**→2→ .... →12→**1**→...
DATE: **1**→2→ .... →31→**1**→...
HOUR: **0**→1→ .... →23→**0**→...
MINUTE: **00**→01→ .... →59→**00**→...

- Repeat procedures 2 and 3 until all items have been set.
- Once the time and date are set, press the Shift Button in response to a precise time signal so hat the clock may begin to function.

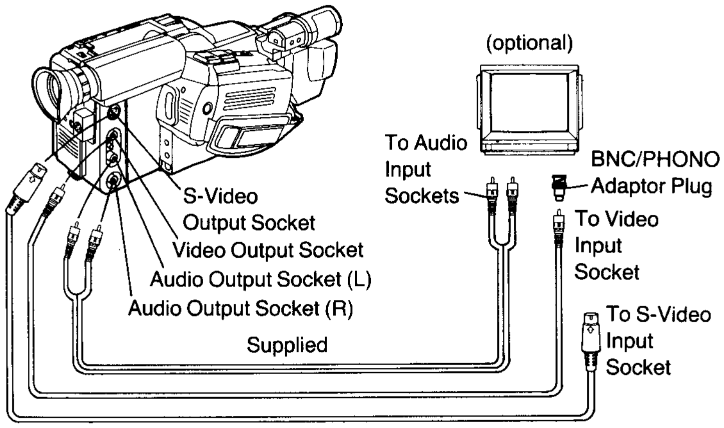
Recording the Date/Time Indications

When the Date/Time Selector is pushed repeatedly, the indications will change in the following sequence:

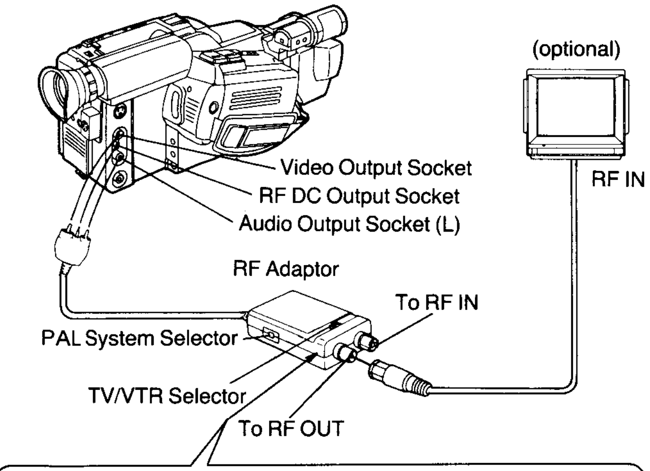


1-5. CABLE CONNECTION

TV Set with AV Input


(optional)
To Audio Input Sockets
BNC/PHONO Adaptor Plug
To Video Input Socket
To S-Video Input Socket
S-Video Output Socket
Video Output Socket
Audio Output Socket (L)
Audio Output Socket (R)
Supplied

TV Set without AV Socket


(optional)
RF IN
Video Output Socket
RF DC Output Socket
Audio Output Socket (L)
RF Adaptor
To RF IN
PAL System Selector
TV/VTR Selector
To RF OUT

TV
Tune to UHF channel 36.

TV/VTR Selector on the RF Adaptor
- **VTR:** For playing back a cassette
- **TV:** For watching TV.

PAL System Selector
- **G:** For continental Europe
- **I:** For U.K.

Note:
When an RF Adaptor is used, the playback sound will be in mono.

1-6. ACCESSORIES

Standard Accessories

○ Supplied
× Not supplied

	NV-MS90 EG, E	NV-MS90 EP	NV-MS90 B
AC Adaptor	○	○	○
Battery Pack	○	○	○
Shoulder Strap	○	○	○
System Carrying Case	×	○	○
S-VHS-C Video Cassette	○	○	○
Cassette Adaptor	○	○	○
AV Output Cable	○	○	○
Battery for Clock Operation	○	○	○
BNC/PHONO Adaptor Plug	○	○	○
DC Input Cable	○	○	○
S-Video Cord	○	○	○
Battery for Cassette Adaptor Operation	○	○	○
VITC Generator	○	○	×
Shoe Adaptor	○	○	○
RF Adaptor	×	×	○
DIN RF Cable	×	×	○
Soft Case	×	×	○

Optional Accessories

Pause Remote Control Unit (VW-RM1)

Character Generator (VW-CG2)

Car Battery Cord (VW-ACC5)

RF Adaptor (VW-RF7E)

Handgrip (VW-GPC1E)

Soft Case (VW-CB5E)

VITC Controller

System Carrying Case •[VW-SHMC20E
PC-MS50E]

•Please ask your local dealer about the availability.

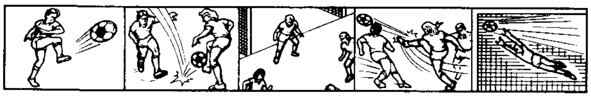
1-7. VITC GENERATOR

VITC signals

This Movie Camera is designed for recording VITC signals (Vertical Interval Time Code) from a VITC Genrator which can be mounted on top of the Movie Camera. Using an Editing Controller (VW-) and an additional Memory Module. (VW-) (both optional), cassette tapes that have been recorded with VITC signals can be edited conveniently and with excellent precision (frame-by-frame).

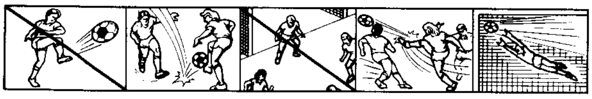
Editing Recorded Scenes into Finished Video Movies.

1 View the original tape to check the recorded content.

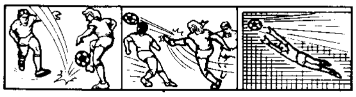


2 Locate the exact starting and ending points (in hours, minutes, seconds and frames) of all the scenes that you want to edit into a finished movie onto another cassette tape.

Make a log with descriptions as well as starting and ending points of these scenes, and determine the order in which they are to be edited.



3 Perform the editing (and audio dubbing, if desired).

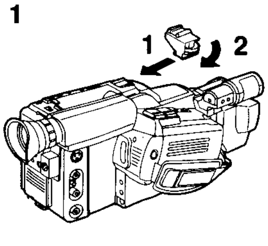


Attaching the VITC Generator

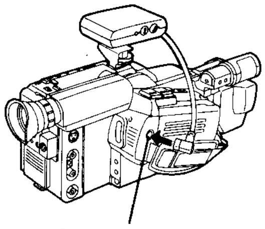
Use the Shoe Adaptor that is supplied with the unit.

- Before attaching the VITC Generator, turn the Movie Camera off.

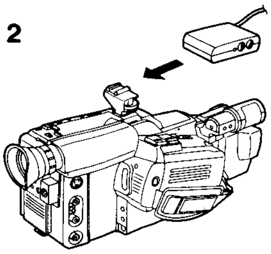
1



3



2



1 Attach the Shoe Adaptor and tighten the screw.

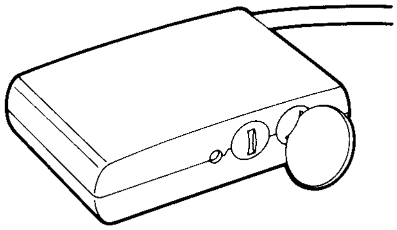
2 Attach the VITC Generator to the Shoe Adaptor.

3 Insert the plug of the VITC Generator Cord into the Character Generator Terminal.

Setting the cassette number

The time code additionally includes a cassette number for distinguishing the time code of different cassettes.

- 100 different cassette numbers are available (00 to 99).



Example for cassette number 23:

1 CASS. UNITS 3

2 CASS. TENS 2

3 Press the RESET key.

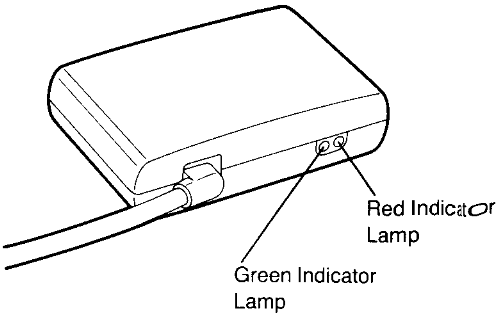
4 The VITC Generator is automatically switched on and off with each push of the Start/Stop Button of the Movie Camera.

Resetting the Time Code to Zero

- When a new cassette tape is inserted into the Movie Camera, the RESET Key should be pressed. This resets the time code value to zero. If the time code is not reset, the VITC Generator will continue counting up to a maximum of 24 hours. The time code then automatically starts from zero—perhaps in the middle of a cassette tape.
- An internal battery ensures that the last time code value before the recording was interrupted is always retained in memory. Thus when camera recording is resumed later, the time code sequence continues from the point where it was halted, even if the Movie Camera was switched off or the VITC Generator was disconnected from the Movie Camera in the meantime.

Indicator Lamps

- The green Indicator Lamp "GEN" is lit while the time code is being recorded together with the video signal.
- The red Indicator Lamp "BATT" lights up when the battery is nearly exhausted.



Cautions for Making Camera Recordings with VITC Time Code.

To ensure that the desired scenes can be found during editing, the time code must be recorded continuously without gaps.

1. Provide a leader for each video cassette. Leave the lens cover on the camera lens and start recording with the VITC generator connected. Let the Movie Camera run like this for at least 20 seconds.
2. Each time you start the Movie Camera, small jumps may appear in the timecode. These jumps would make editing of the first frames of a scene difficult. Thus get into the habit of always starting the camera 5 seconds before the actions you wish to record actually start.
3. Do not wind the tape in the video cassette forwards or backwards after taking a shot. The successive shots must be recorded in continuous sequence.
4. Do not use the Recording mode function of your Movie Camera.
5. Never make new recordings over parts of a recorded original cassette.

Battery replacement

The battery in the VITC Generator has a life expectancy of 5 to 7 years.

If the red Indicator Lamp "BATT" lights up, there is still enough battery power to continue the time code recording until the end of the inserted video cassette. However, before starting to record on the next cassette, have your video dealer insert a new battery.

SAFETY CAUTIONS FOR LITHIUM BATTERY

[FOR UNITED KINGDOM]

'THE LITHIUM BATTERY IS A CRITICAL COMPONENT (TYPE NUMBER BR2032 MANUFACTURED BY PANASONIC).

IT MUST NEVER BE SUBJECTED TO EXCESSIVE HEAT OR DISCHARGE. IT MUST THEREFORE ONLY BE FITTED IN EQUIPMENT DESIGNED SPECIFICALLY FOR ITS USE.

REPLACEMENT BATTERIES MUST BE OF THE SAME TYPE AND MANUFACTURER.
THEY MUST BE FITTED IN THE SAME MANNER AND LOCATION AS THE ORIGINAL BATTERY, WITH THE CORRECT POLARITY CONNECTIONS OBSERVED.

DO NOT ATTEMPT TO RE-CHARGE THE OLD BATTERY OR RE-USE IT FOR ANY OTHER PURPOSE. IT SHOULD BE DISPOSED OF IN WASTE PRODUCTS DESTINED FOR BURIAL RATHER THAN INCINERATION'.

WARNING

THE LITHIUM BATTERY IN THIS EQUIPMENT MUST ONLY BE REPLACED BY QUALIFIED PERSONNEL. WHEN NECESSARY, CONTACT YOUR LOCAL PANASONIC SUPPLIER.

[FOR SWEDEN]

VARNING

Explosionsfara vid felaktigt batteribyte.
Använd samma batterityp eller en ekvivalent typ som rekommenderas av apparattillverkaren.
Kassera använt batteri enligt fabrikantens instruktion.

[FOR DENMARK]

ADVARSEL!

Lithiumbatteri - Eksplosionsfare ved fejlagtig håndtering.
Udskiftning má kun ske med batteri af samme fabrikat og type.
Levér det brugte batteri tilbage til leverandøren.

[FOR FINLAND]

VAROITUS

Paristo voi räjähtää, jos se on virheellisesti asennettu.
Vaihda paristo ainoastaan laitevalmistajan suosittelemaan tyyppiin. Hävitä käytetty paristo valmistajan ohjeiden mukaisesti.

SECTION 2
ADJUSTMENT PROCEDURES

2-1. DISASSEMBLY PROCEDURES

[VTR SECTION]

1. Removal of Cassette Cover

(1) Remove 2 screws (A).
(2) Slide the cassette cover to as shown in Fig. D1.

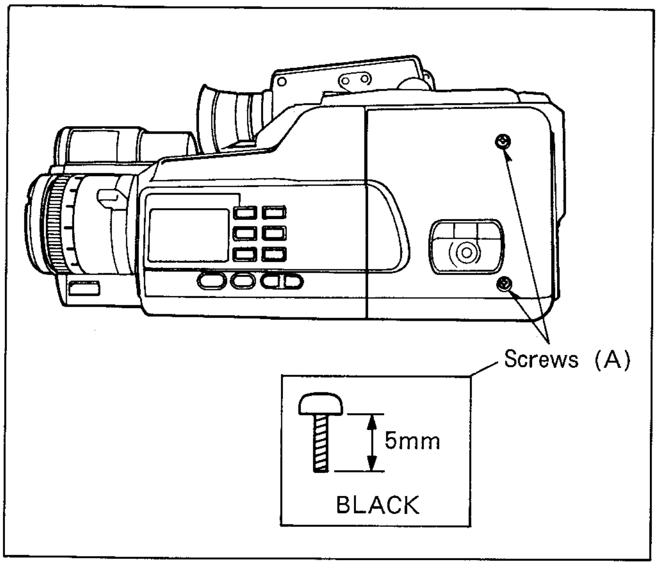

Screws (A)
5mm
BLACK

Fig. D1

2. Removal of Top Case

(1) Remove 5screws (B).
(2) Lift the Top Case from rear side.

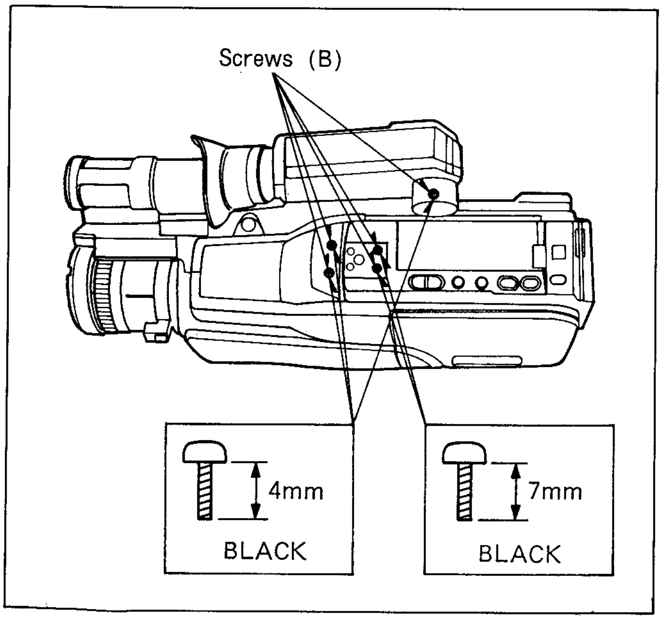

Screws (B)
4mm
BLACK
7mm
BLACK

Fig. D2

3. Removal of VTR Operation Panel

(1) Remove 2 screws (C).
(2) Lift the VTR Operation panel.

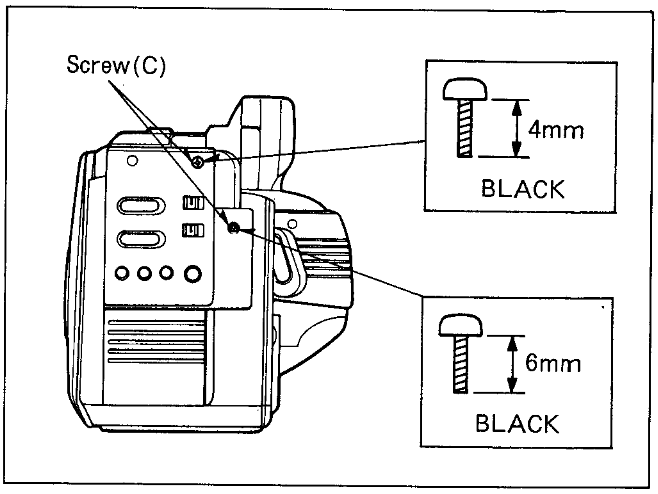

Screw(C)
4mm
BLACK
6mm
BLACK

Fig. D3

4. Removal of side case (R)
Remove 9 screws (D).

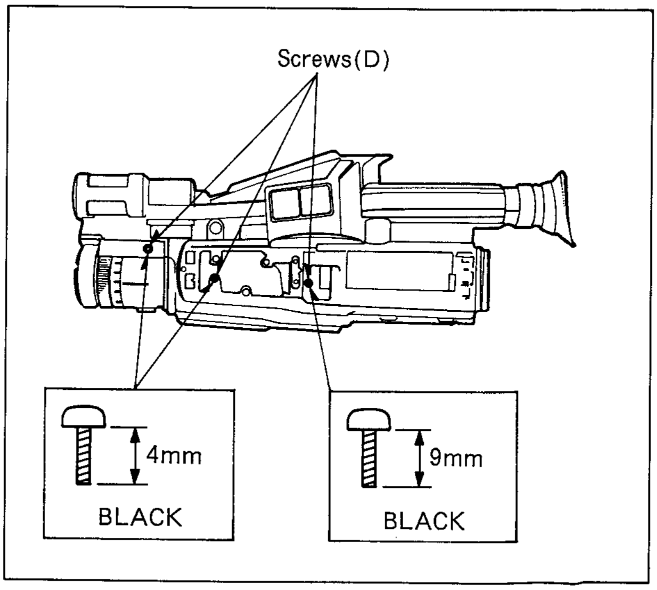
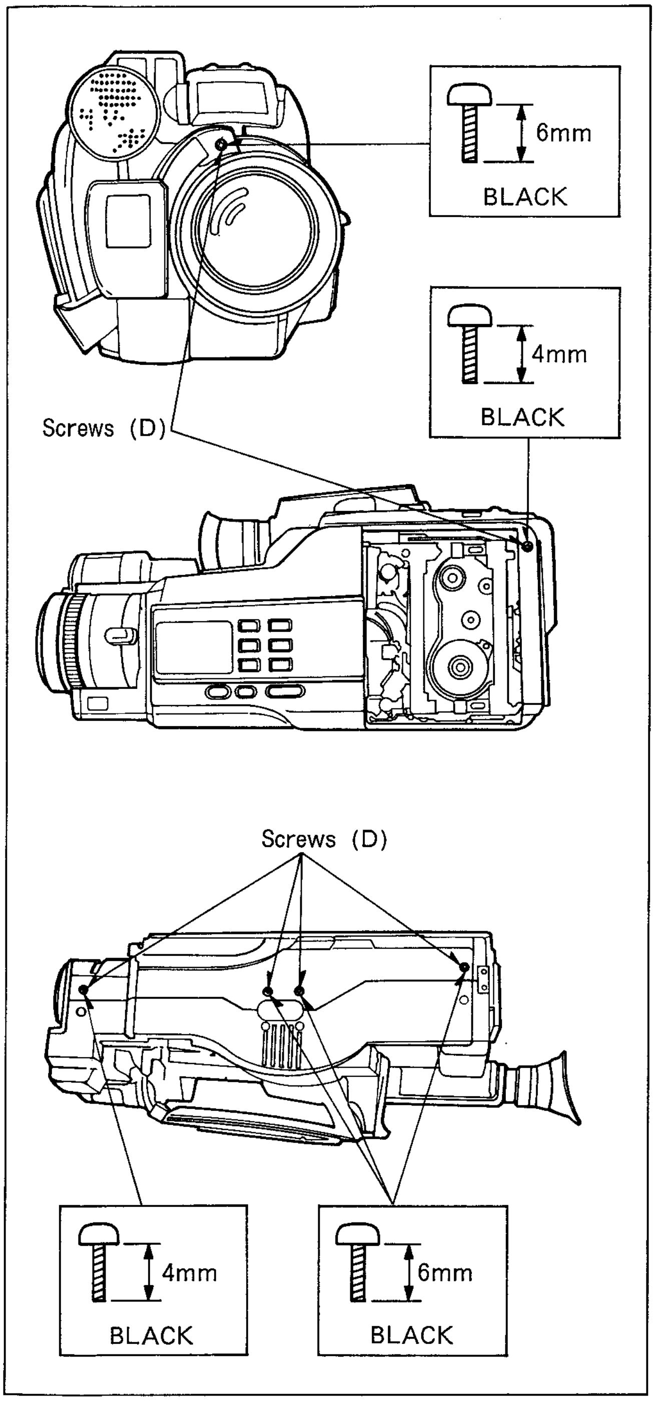

Screws(D)
4mm
BLACK
9mm
BLACK

Fig. D4–1


6mm
BLACK
4mm
BLACK
Screws (D)
Screws (D)
4mm
BLACK
6mm
BLACK

5. Removal of E.V.F Unit

(1) Remove 2 screws (E).

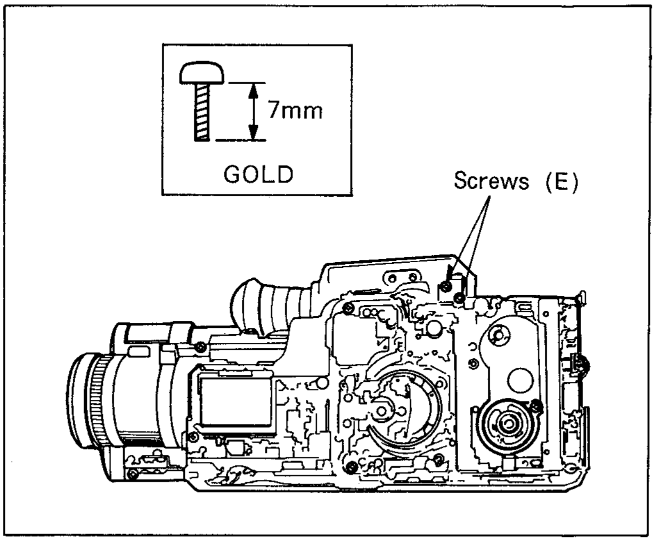

7mm
GOLD
Screws (E)

Fig. D5

6. Removal of VTR Unit

(1) Remove 3 screws (F) and disconnect the connectors.

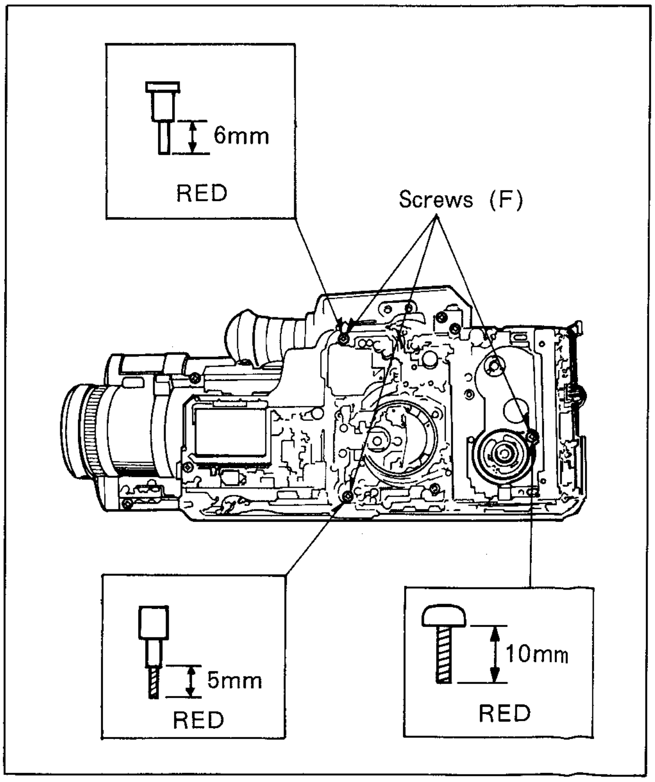

6mm
RED
Screws (F)
5mm
RED
10mm
RED

Fig. D6

7. Removal of Main C.B.A.

(1) Remove screw (G) to remove the Main C.B.A.

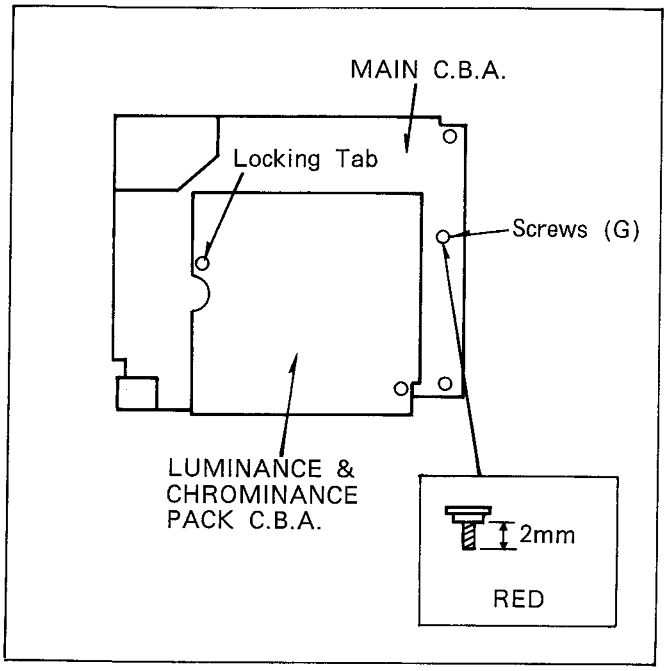

MAIN C.B.A.
Locking Tab
Screws (G)
LUMINANCE & CHROMINANCE PACK C.B.A.
2mm
RED

Fig. D7

7. Removal of Luminance & Chrominance Pack C.B.A.

(1) Unlock locking tab to lift it up. o: 3
(2) Remove the Luminance & Chrominance Pack C.B.A.

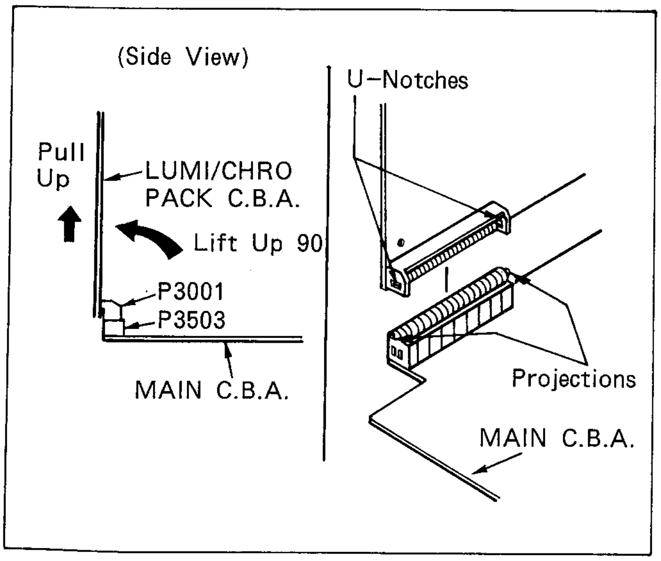

(Side View)
Pull Up
LUMI/CHRO PACK C.B.A.
Lift Up 90
P3001
P3503
MAIN C.B.A.
U–Notches
Projections
MAIN C.B.A.

Fig. D8

8. Removal of Camera Unit

(1) Remove 3 screws (H).

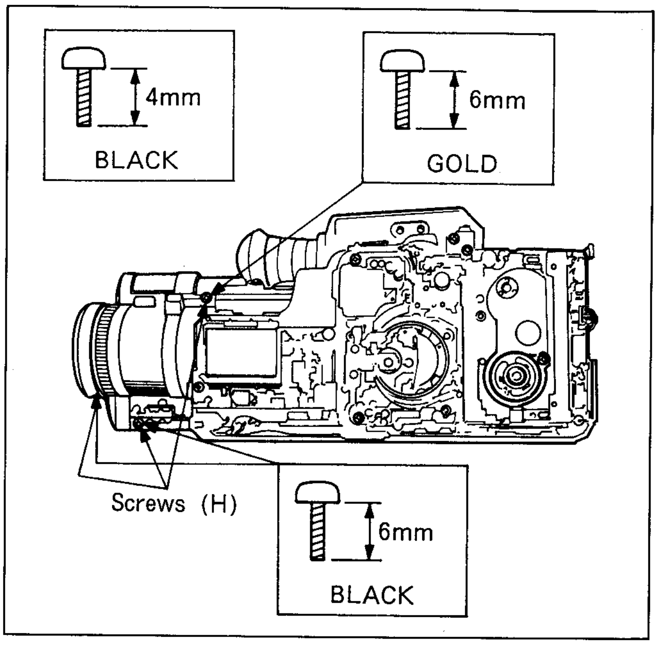

4mm
BLACK
6mm
GOLD
Screws (H)
6mm
BLACK

Fig. D9

9. Removal of Cassette Up Unit

(1) Remove 2 screws (I).
(2) Slide the cassette up unit in direction of allow and release the pins on the moving levers of cassette up unit from the enlarged circular insertion hole at end of the cassette guide slot.

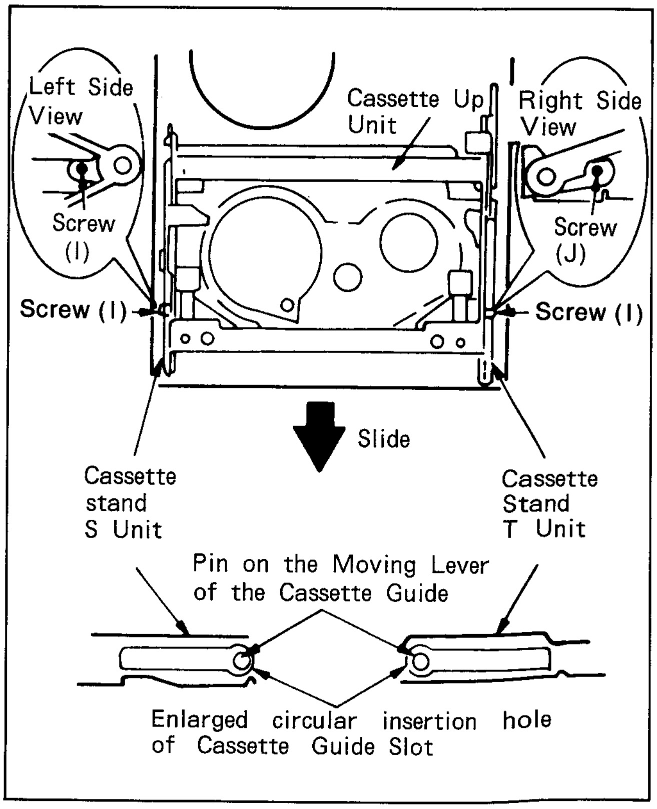

Left Side View
Screw (I)
Cassette Up Unit
Right Side View
Screw (J)
Screw (I)
Screw (I)
Slide
Cassette stand S Unit
Cassette Stand T Unit
Pin on the Moving Lever of the Cassette Guide
Enlarged circular insertion hole of Cassette Guide Slot

Fig. D10

[CAMERA SECTION]

1. Removal of Process C.B.A.

(1) Remove 2 screws (J) and disconnect the connectors on process C.B.A.
(2) Remove the process C.B.A.

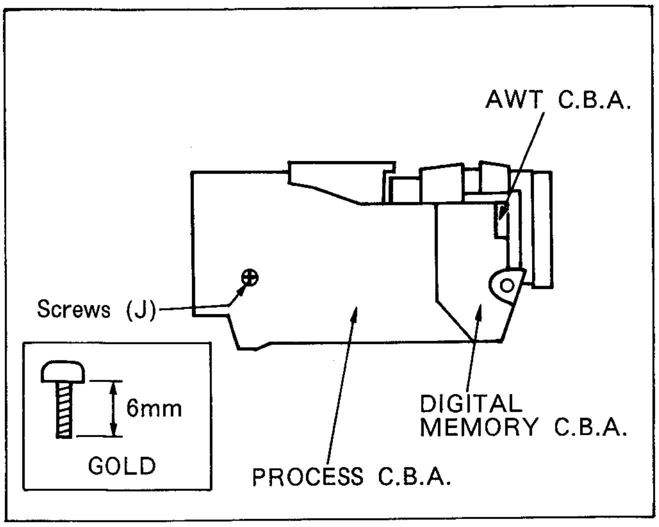

AWT C.B.A.
Screws (J)
6mm
GOLD
DIGITAL MEMORY C.B.A.
PROCESS C.B.A.

Fig. D11

2. Removal of Sensor C.B.A.

(1) Remove 2 screws (K) to remove the shield box.

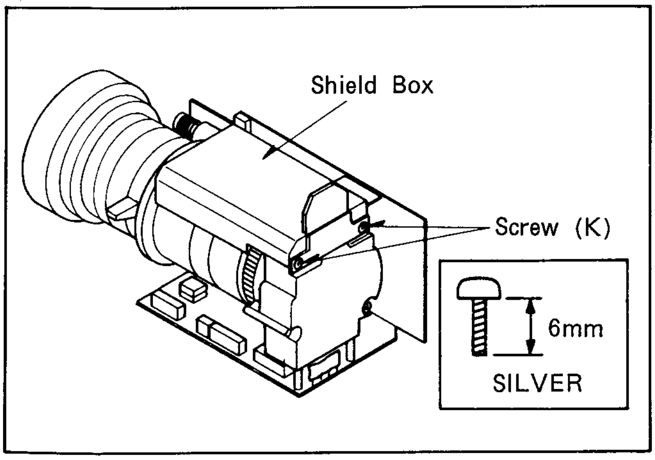

Shield Box
Screw (K)
6mm
SILVER

Fig. D12

(2) Remove 2 screws (L) and disconnect the flexible card FP201 on sensor C.B.A.
(3) Remove the sensor C.B.A.

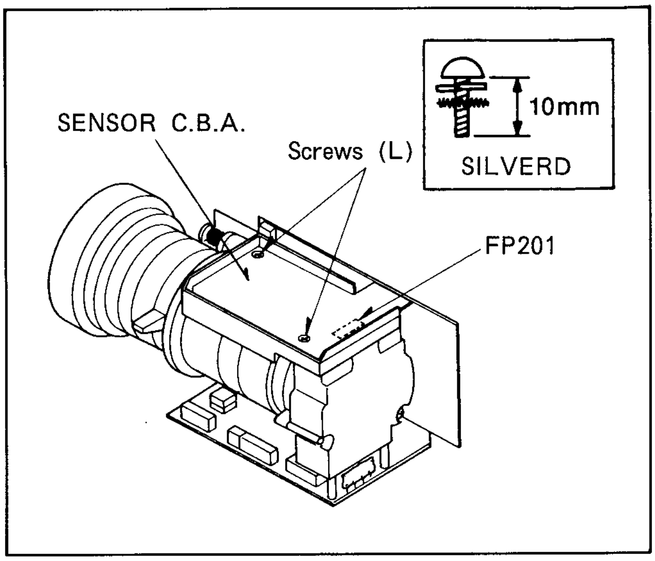

SENSOR C.B.A.
Screws (L)
10mm
SILVERD
FP201

Fig. D13

3. Removal of Auto Focus C.B.A.

(1) Remove 3 screws (N) and disconnect the connectors FP701, P702, P704, P705, P706 on Auto Focus C.B.A.
(2) Remove Auto Focus C.B.A.

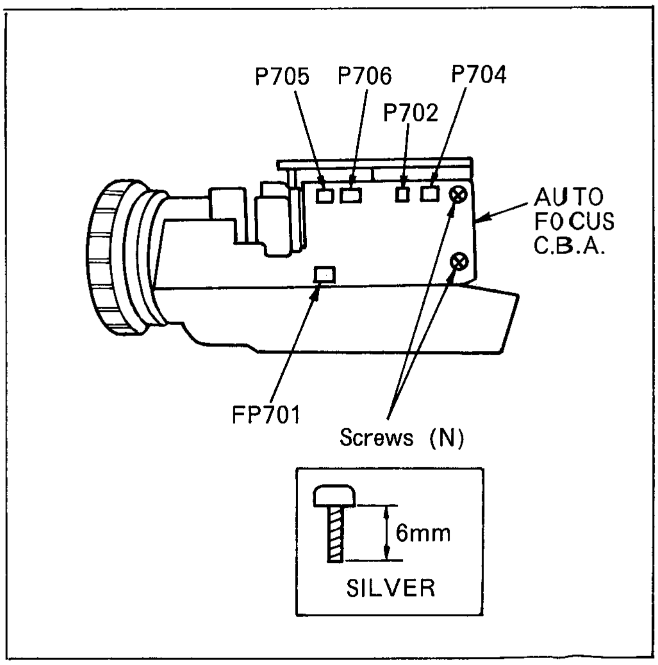

P705
P706
P704
P702
AUTO FOCUS C.B.A.
FP701
Screws (N)
6mm
SILVER

Fig. D14

4. Removal of LCD C.B.A.

(1) Remove 3 screws (O).
(2) Remove LCD C.B.A.

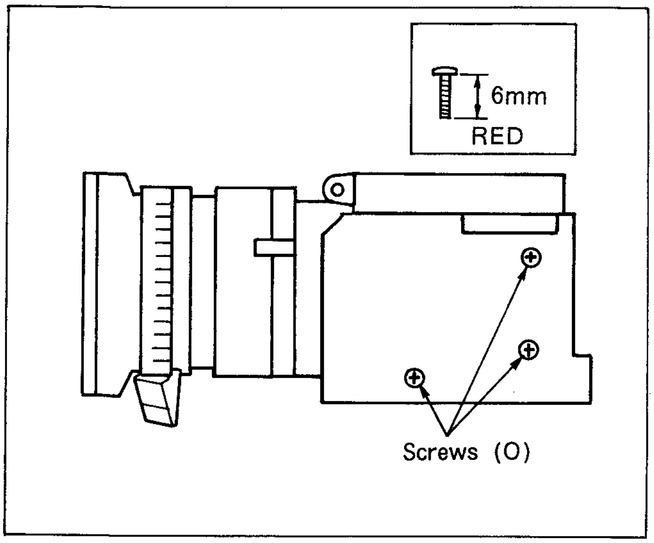

6mm
RED
Screws (O)

Fig. D15

5. Removal of CCD Unit

(1) Remove 3 screws (P).
(2) Remove 3 screws (Q) and then take out the CCD Drive C.B.A. Frame and CCD Shield box.
(3) Remove 2 screws (R) and then take out the CCD Unit.

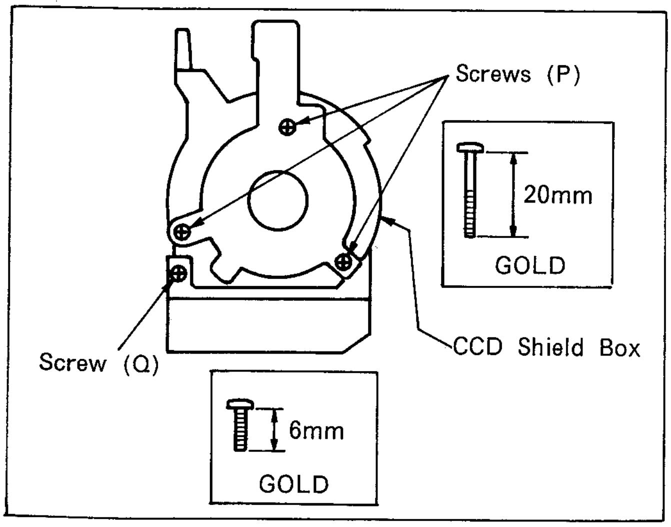

Screws (P)
20mm
GOLD
Screw (Q)
CCD Shield Box
6mm
GOLD

Fig. D16

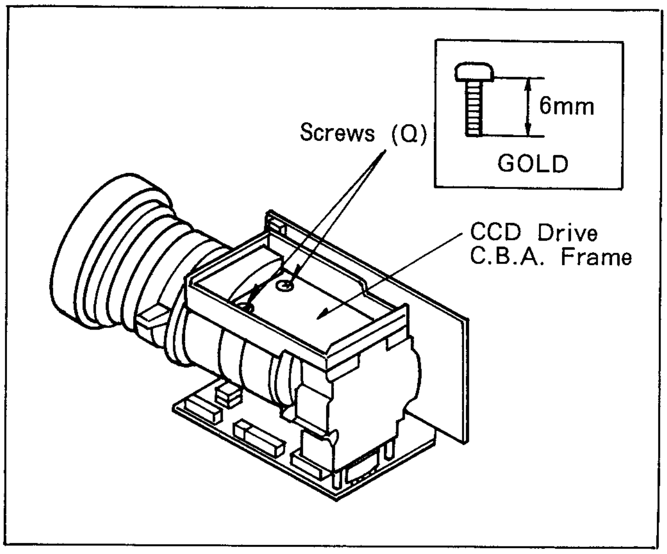

6mm
GOLD
Screws (Q)
CCD Drive C.B.A. Frame

Fig. D17

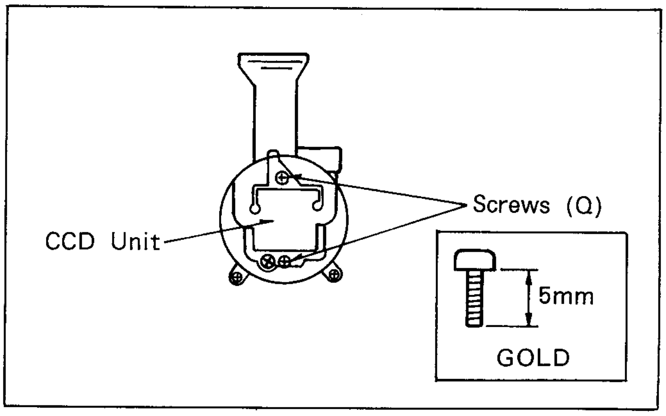

Screws (Q)
CCD Unit
5mm
GOLD

Fig. D18

6. Removal of Actuator Unit

(1) Remove 3 screws (S) and remove actuator unit.

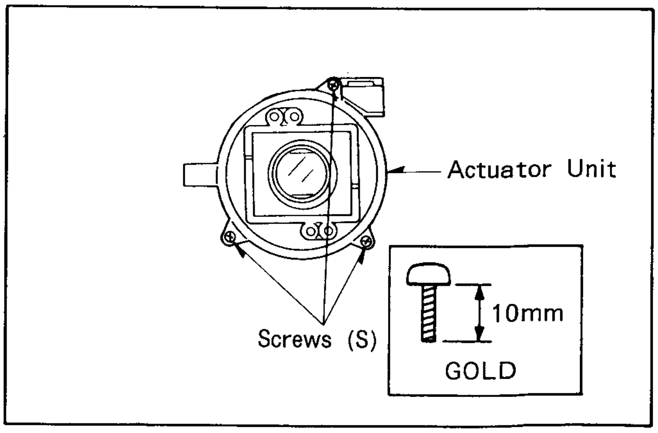

Actuator Unit
Screws (S)
10mm
GOLD

Fig. D19

[E.V.F. SECTION]

1. Removal of E.V.F. Case

(1) Remove 2 screws (T) to remove the E.V.F. case.

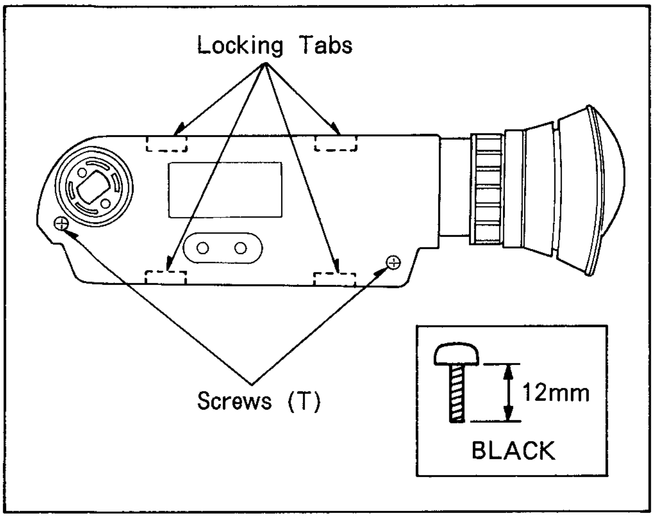

Locking Tabs
Screws (T)
12mm
BLACK

Fig. D20

2-2. PROCEDURE FOR CLEANING UPPER CYLINDER UNIT

(1) Position the Video Head to permit access for cleaning, and hold the Upper Cylinder to keep it from turning while cleaning.
(2) Gently rub the Video Head in the direction of tape travel with a Head Cleaning Stick (VFK27) moistened with Freon TF.
(3) Repeat for the other Video Heads.

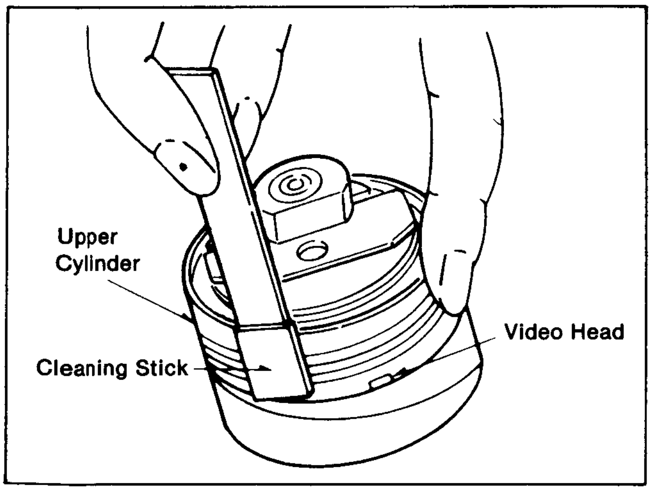

Upper Cylinder
Cleaning Stick
Video Head

Fig. U1

Note:
(1) Do not rub vertically.
(2) Do not apply any pressure to the head. If the contaminant is not easily removed, continued gentle wiping will usually remove it.

2-3. REPLACEMENT AND ADJUSTMENT PROCEDURES

2-3-1. REPLACEMENT OF FOCUS LENS UNIT

(1) **Remove the Camera Unit from the S-VHS-C Movie.**
(2) Remove the C.B.As (Proscess, Auto Focus, Sensor) and Lens Cover from Camera Unit.
(3) Unscrew the Screw (A) and remove the zoom Motor Unit.
(4) Unscrew the Screw (B) amd remove the Focus Motor Unit.
(5) Unscrew the Screw (C) and remove the Focus Drive Unit.
(6) Unscrew the Screw (D) and remove the Encoder C.B.A.
(7) Unscrew the Screw (E) and remove the Lens Angle B.

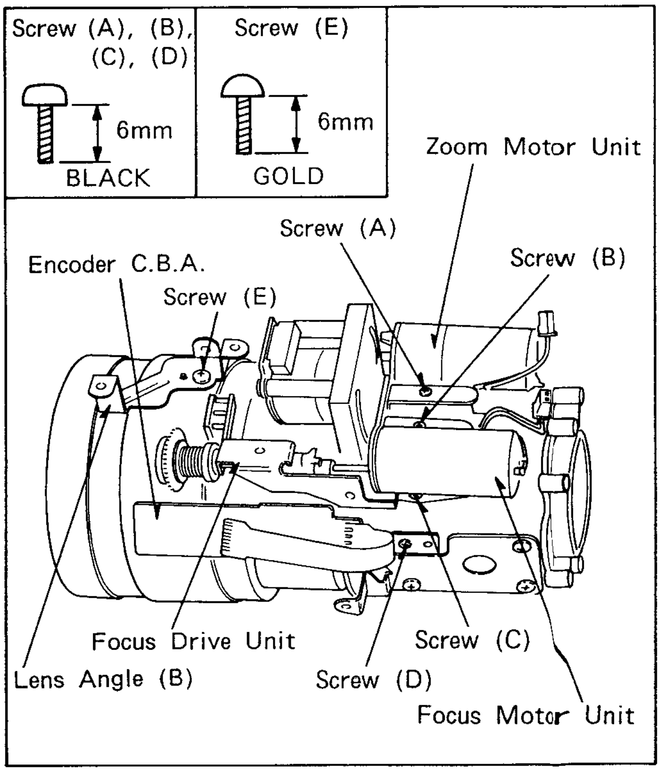

Screw (A), (B), (C), (D)
6mm
BLACK
Screw (E)
6mm
GOLD
Zoom Motor Unit
Screw (A)
Screw (B)
Encoder C.B.A.
Screw (E)
Focus Drive Unit
Screw (C)
Lens Angle (B)
Screw (D)
Focus Motor Unit

Fig. T1

(8) Remove the Focus Fastener and Tape as shown in below.
(9) Remove the Focus Ring by turning the Focus Adjustment Pitch to the counter clockwise.

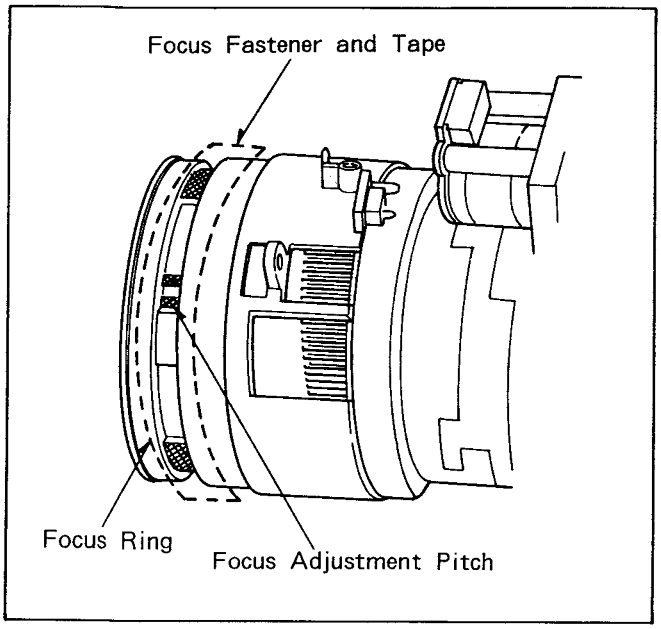

Focus Fastener and Tape
Focus Ring
Focus Adjustment Pitch

Fig. T2

(10) Unscrew 4 Screws (F) and remove the Focus Lens Unit with Iris Unit as shown in below.
(11) Remove the Iris Unit from Focus Lens Unit and replace the Focus Lens Unit.

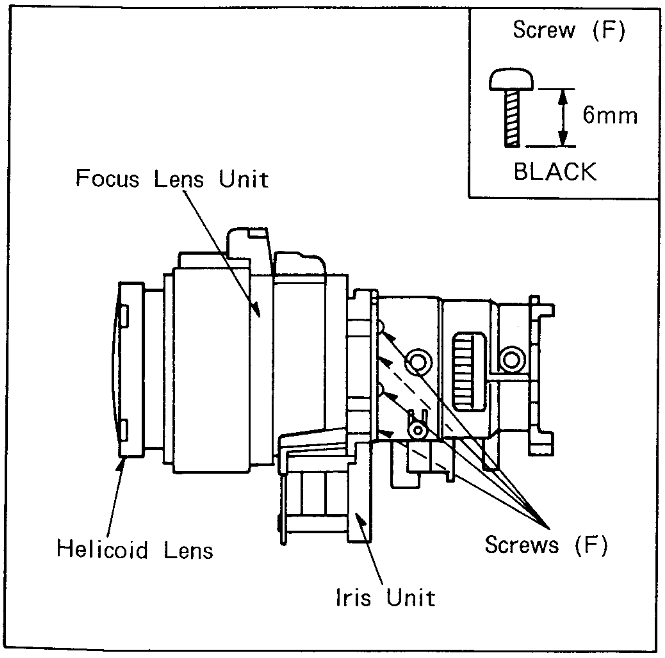

Screw (F)
6mm
BLACK
Focus Lens Unit
Helicoid Lens
Iris Unit
Screws (F)

Fig. T3

[ADJUSTMENT PROCEDURES]

Note:

Do not remove the Helicoid Lens from Focus Lens Unit because they have the relationship to be paired.
If the Helicoid Lens is happened to be removed, the Helicoid Lens should be installed as following step.

a. Install the Helicoid Lens so that the projection with groove on Helicoid Lens comes to the portion "A" on lens unit as show below.

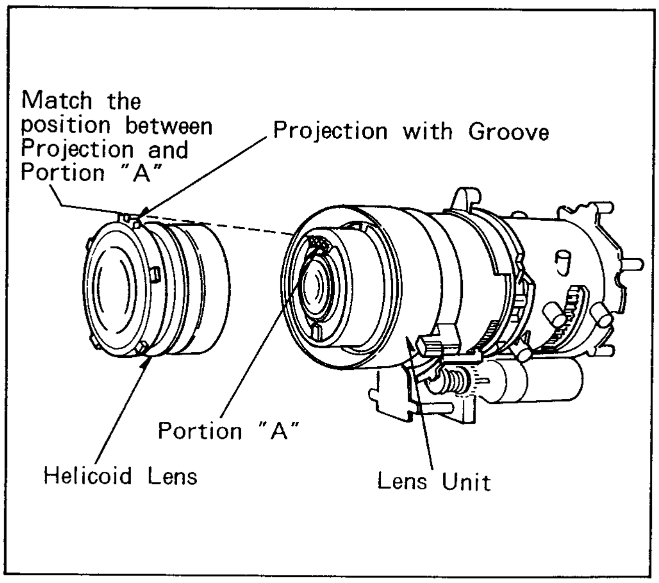

Match the position between Projection and Portion "A"
Projection with Groove
Portion "A"
Helicoid Lens
Lens Unit

Fig. T4

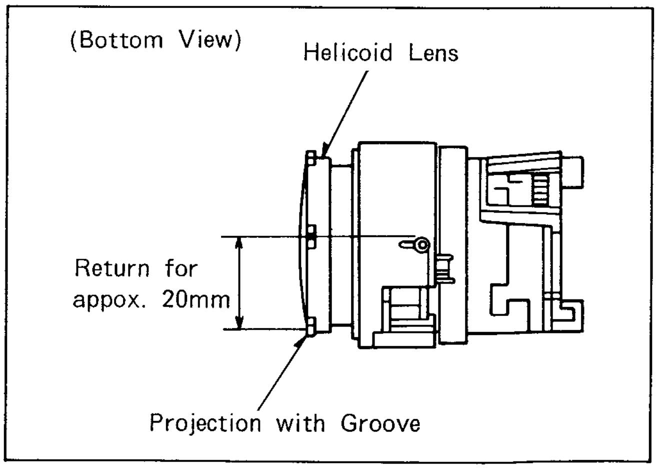

(Bottom View)
Helicoid Lens
Return for appox. 20mm
Projection with Groove

Fig. T5

(12) After replacing the Focus Lens Unit, Install the Iris Unit to Focus Lens Unit.
(13) Install the Focus Lens Unit with Iris Unit and then tighten 4 Screws (F) as shown in Fig. T3.
(14) Adjust the Helicoid Lens position as follows.

a. Turn the Helicoid Lens to fully clockwise and return it for approx. 20mm (so that next installation become easy) as shown in Fig. T5.

(15) Install the Focus Ring so that the Portion "B" on Focus Ring comes to Projection with Groove on Focus Lens Unit as shown below.

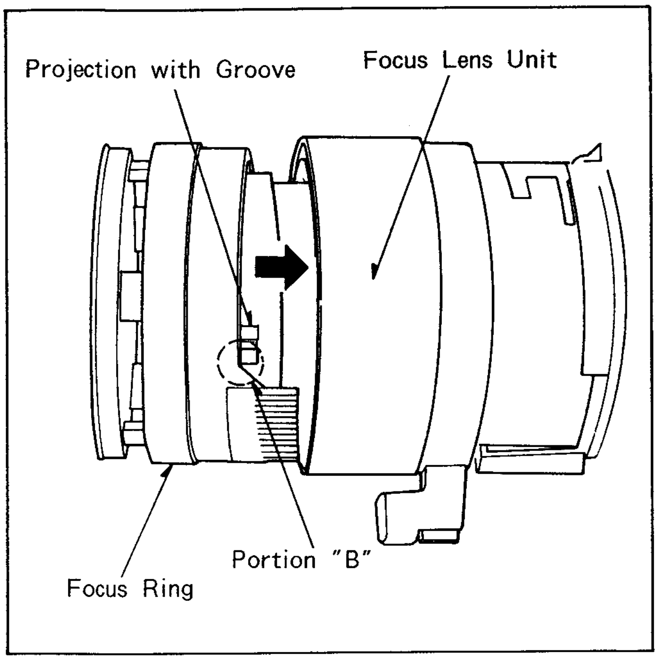

Projection with Groove
Focus Lens Unit
Portion "B"
Focus Ring

Fig. T6

(16) In order to lock the Focus Ring, Turn the Focus Adjustment Pitch to clock wise.

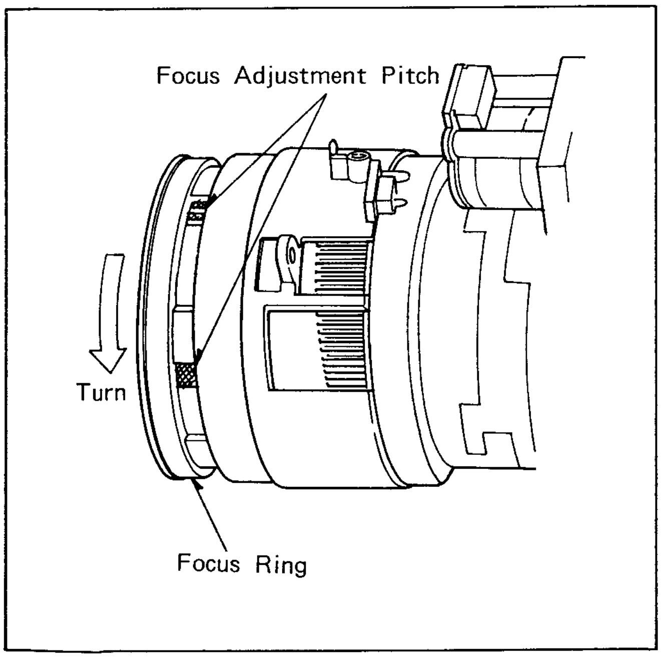

Focus Adjustment Pitch
Turn
Focus Ring

Fig. T7

(17) Install the Focus Fastener and Tape as shown in Fig. T6.

(18) Install the C.B.As (Process, Auto Focus, Sensor, Encoder) and Zoom Motor in reverse assembly order.

(19) After installation of the Focus Ring, Adjust the position of Back Focus Picth as follows.

a. Prepare the Hunting chart for object and aim the camera at the hunting chart 3m distance.
b. Focus the Lens on the object.
c. Confirm that Focus Ring indicates 3m.
d. Adjust the Back Focus Pitch so that the sharpest focus is obtained.
e. Zoom all the way back and adjust hte Back Focus Pitch so that the sharpest focus is obtained.
f. Repeat the procedure as follows, Zoom In, Focus, Zoom Out and adjust the Back Focus Pitch until the best focus is obtained over the entire zoom range.

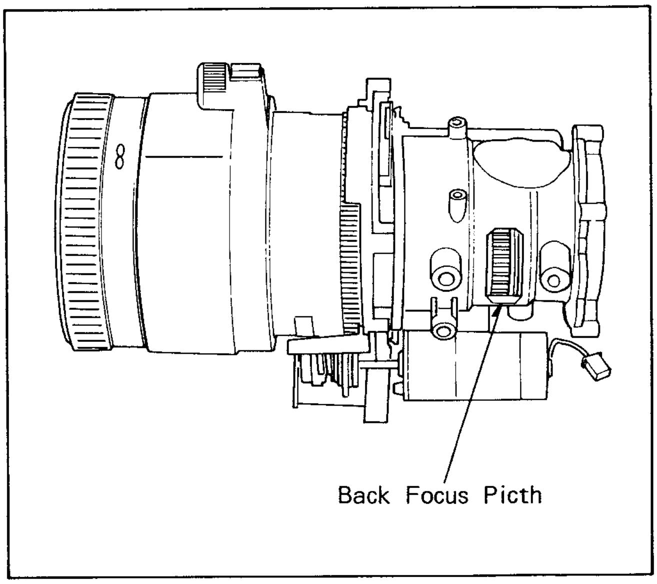

8
Back Focus Picth

Fig. T8

2-3-2. REPLACEMENT OF ROTARY TRANSFORMER/CAPSTAN MOTOR UNIT

[REPLACEMENT OF ROTARY TRANSFORMER]

Reinstallation of Rotary Transformer (R) Unit

(1) Reistall the Rotary Transformer (R) Unit carefully so that the white portion of Upper Cylinder Unit is properly aligned with white portion of Rotary Transformer (R).
(2) Tighten the 2 screws (C) and solder 8 Lead Pins (B).

Reinstallation of Upper Rotary Transformer (S) Unit

(1) Befor reinstalling a Upper Rotary Transformer (S) Unit, clean the surface of Rotary transformer (R) and Rotary Transformer (S) with a soft cloth.
(2) Place the Spacer (VMX1340) on Rotary Transformer (R). Reinstall the Upper Rotary Transformer (S) Unit so that insert the shaft (VMS3504) to center of Rotary transformer (S) surely through the center of Upper Rotary transformer (R).

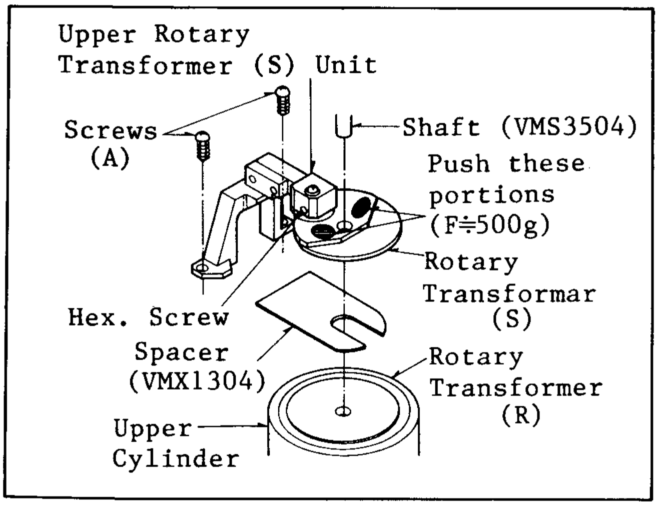

Upper Rotary Transformer (S) Unit
Screws (A)
Shaft (VMS3504)
Push these portions (F≑500g)
Rotary Transformar (S)
Hex. Screw
Spacer (VMX1304)
Rotary Transformer (R)
Upper Cylinder

Fig.A1

(3) Tighth the 2 screws (A).
(4) Loosen the Hex. Screw (1.2mm).
(5) Push the Upper Rotary Transformer (S) C.B. (F=500g) and then remove the Shaft and tightn the Hex. Screw.
(6) Remove the spacer.

Simplifide adjustment of Upper Rotary Transformer (S) Unit

(1) Clean the surface of the Rotary Transformer (R) and (S) with a soft cloth before reinstall a Upper Rotary Transformer (S) Unit.
(2) Place a piece of paper on Rotary Transformer (R) which has the same thickness as an ordinary page of Service Manual (not cover page but the other thinner pages) cutting as follows. (The specification of this gap is between 70um ~ 100um.)
(3) Install the Rotary Transformer (S) unit so that the center portion comes to the center of Upper Cylinder Motor.
(4) Tighten the 2 Screws (A).
(5) Loosen the Hex. screw.
(6) Push the screened portions of the Rotary Transformer (S) (approx. 500g) and then tighten the Hex. screw with Hex wrench.
(7) Remove the paper which is used as spacer.
(8) Confirm that the Upper Cylinder can rotate smoothly.

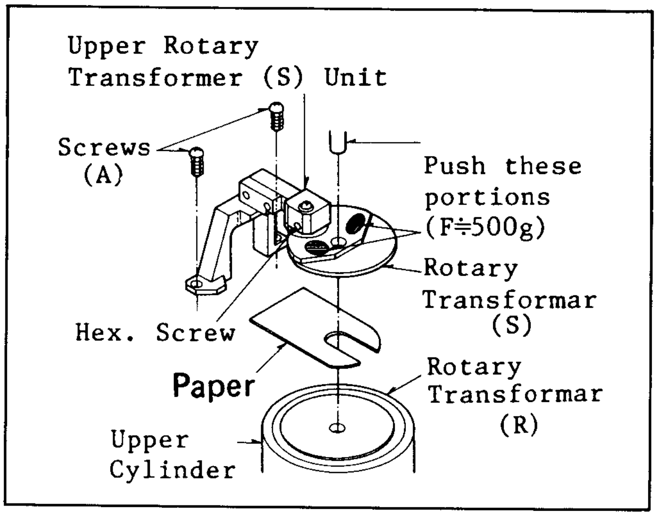

Upper Rotary Transformer (S) Unit
Screws (A)
Push these portions (F≑500g)
Rotary Transformar (S)
Hex. Screw
Paper
Rotary Transformar (R)
Upper Cylinder

Fig. A2

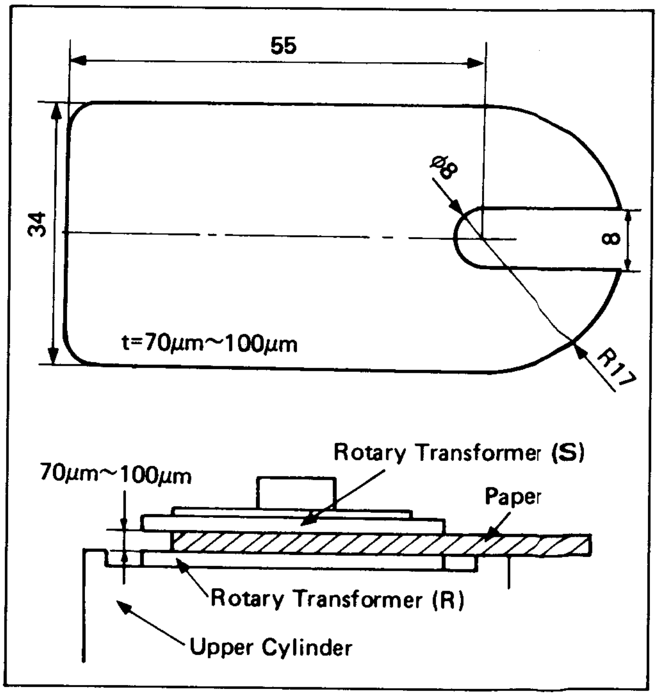

55
34
φ8
8
R17
t=70µm~100µm
70µm~100µm
Rotary Transformer (S)
Paper
Rotary Transformer (R)
Upper Cylinder

Fig. A3

Confirmation of replacement

(1) Confirm the rotarion of Upper Cylinder Unit. (Upper Cylinder Unit rotate smoothly.)
(2) Insert the Spacer to gap of Rotaly Trans. (It must be smoothly also gap must not be too wide.)
(3) Confirm the selfrecording and Playback picture on LP mode. (Play back picture must not noisy)
(4) If condition is no good, review the item No.6 Reinstllation of Upper Rotary Transformer (S) Unit.
(5) After confirmation, perform "TAPE INTERCHANGEABILITY ADJUSTMENT."

[REPLACEMENT OF CAPSTAN MOTOR UNIT]

(1) Ensure Unit is in the STOP mode. Remove the Capstan Belt.
(2) Unlock Flexible Cable P2603 on the Drive C.B.A.

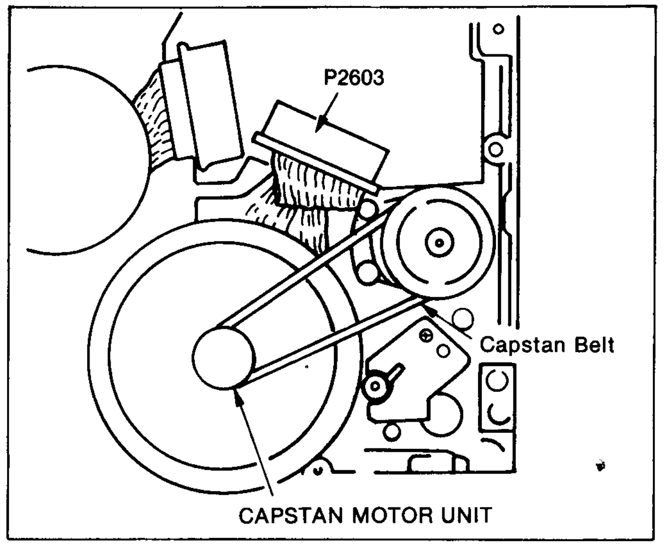

P2603
Capstan Belt
CAPSTAN MOTOR UNIT

Fig.M1

(3) Remove the Cassette Up Holder. LP Head Amp, head Amp Holder and Mode Select Switch Unit.
(4) Take out the Idler Gear while pushing on the Tape Guide lever Unit unit until it clears the Idler Gear Teeth as shown in Fig.M2.

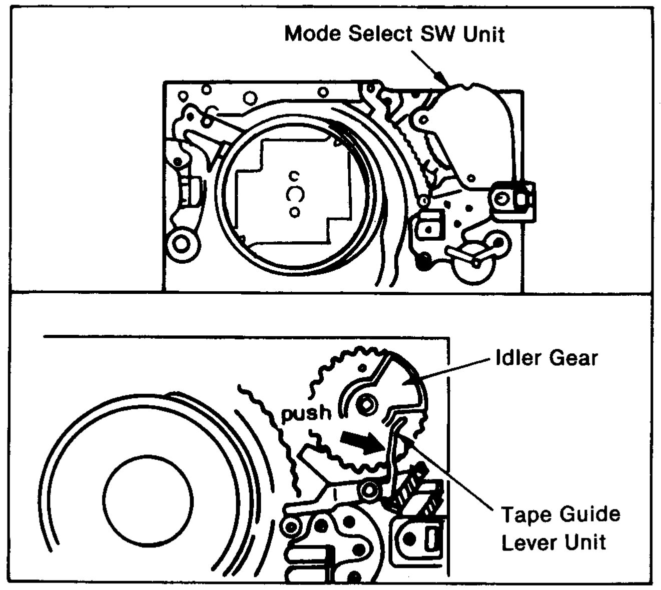

Mode Select SW Unit
Idler Gear
push
Tape Guide Lever Unit

Fig.M2

(5) Remove 2 screws (B). Then remove screws (C) While slighty pushing on the Sector Gear Unit to remove screw (C) as shown in Fig.M3. Then remove the A/C Head Base Unit.

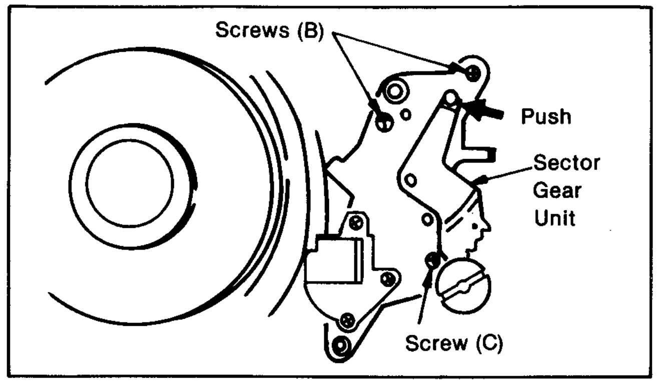

Screws (B)
Push
Sector Gear Unit
Screw (C)

Fig.M3

(6) Remove the Cut Washer and Motor Gear. Then place the Unit in play position completely by rotating loading Idle Gear clockwise as shown in Fig M4.

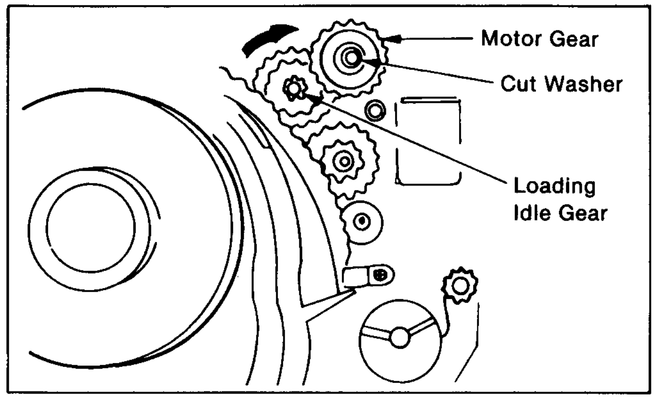

Motor Gear
Cut Washer
Loading Idle Gear

Fig.M4

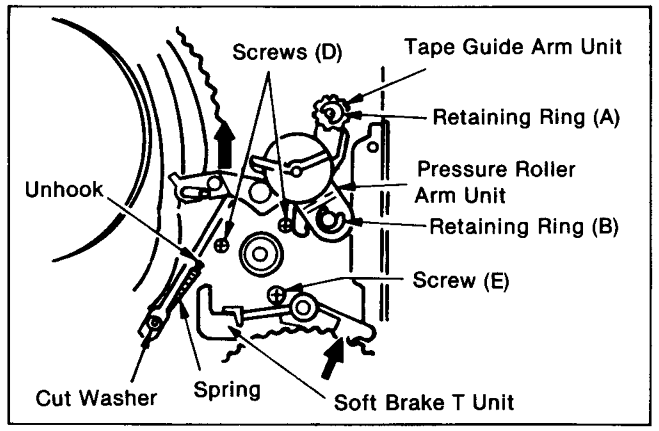

Screws (D)
Tape Guide Arm Unit
Retaining Ring (A)
Pressure Roller Arm Unit
Retaining Ring (B)
Unhook
Screw (E)
Cut Washer
Spring
Soft Brake T Unit

Fig.M5

(7) Remove Retaining Ring (A) and Tape Guide Arm Unit by pushing it in the direction shown by arrow and lifting it off its Post.
(8) Remove the Cut Washer and unhook the Spring.
(9) Remove Retaining Ring (B) and Pressure Roller Arm Unit.
(10) Refer to the Disassembly/Assembly and Adjustment Procedures of Mechanism. Use steps 3, 4 and 5 to remove the Takeup Reel Gear, Clutch Gear Unit and Soft Brake T Unit.
(11) Remove 2 Screws (D) and Screw (E) while pushing slightly on the Soft Brake T Unit.Then remove the Capstan Stator Unit from Bottom Side.
(12) Replace the new Capstan Motor Unit and then tighten 2 Screws (D) and Screw (E).

Adjustment of FG Head Gap

* Specification: .... 0.1~0.15mm
(1) Slightly loosen the 2 screws.
(2) Put the paper which is used for cover page of this volume into the gap between F.G.Head and Capstan rotor.
(3) Afer adjustment, tighten 2 screws.

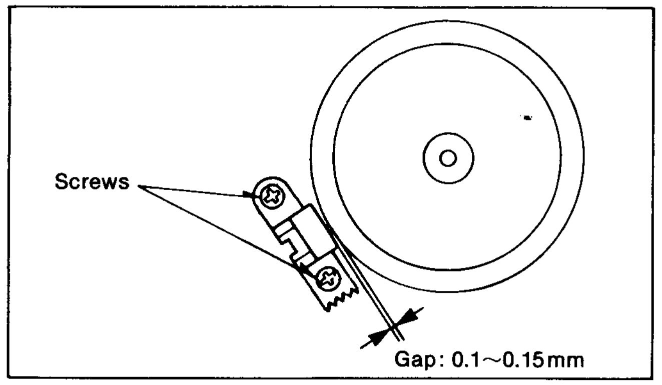

Screws
Gap: 0.1~0.15mm

Fig.M6

Note:
Do not touch the surface of rotor and keep any magnetizable material away.

2-3-3. ADJUSTMENT OF TENSION POST POSITION

(1) Remove the Cassette Up Unit.
(2) Cover the Tape End Sensor and Cassette Up/Down Sensor with Black Tape.
(3) Push the Play button to complete loading operation sequence.
(4) As soon as loading is completed, disconnect the AC plug of AC Adaptor.
(5) Loosen Screw (F) a little bit and adjust the Tension Adjust Piece (in either direction) as indicated by the arrow so that the center of the Tension Post is 1mm to the left of the center of the S1 Post as shown in Fig.M7. Tighten Screw (F) to secure it.

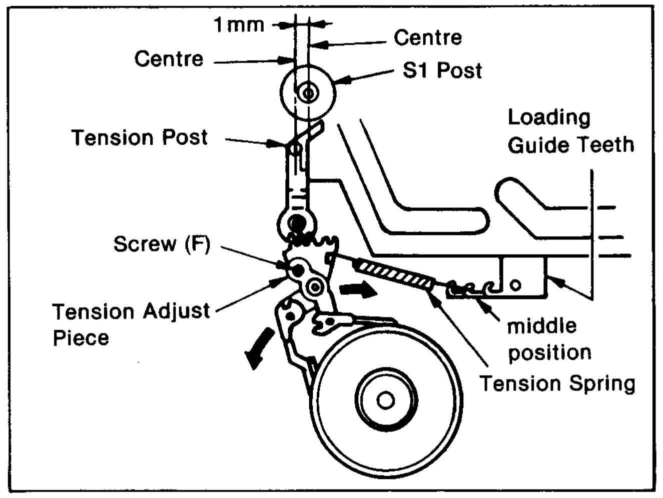

1mm
Centre
Centre
S1 Post
Tension Post
Loading Guide Teeth
Screw (F)
Tension Adjust Piece
middle position
Tension Spring

Fig.M7

Note:
After this adjustment, reposition Tension Spring on Loading Guide Teeth to middle position as a Back Tension Adjustment as shown in Fig.M7.

2-3-4. HEIGHT ADJUSTMENT OF TAPE GUIDE POST (PRELIMINARY ADJUSTMENT)

Height adjustment of S1 Post

* Specification: .... 14.72+-0.1mm

(1) For adjustment of S1 post height, turn 4mm Nut (A) slightly in either direction as necessary to the correct clearance between the upper edge of the lower tape guide on S1 Post and the lower portion of Cassette Stand S Unit.

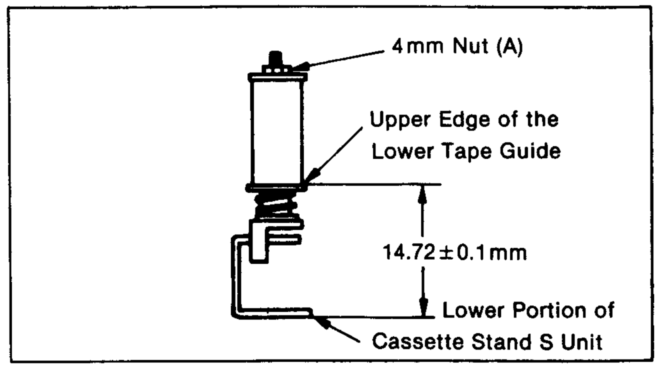

4mm Nut (A)
Upper Edge of the Lower Tape Guide
14.72±0.1mm
Lower Portion of Cassette Stand S Unit

Fig.M8

Height adjustment of S2 and T1 Posts

* Specification:
S2 Post .... 0.56+-0.1mm
T1 Post .... 0.74+-0.1mm

(1) For adjustment of S2 and T1 post height, loosen the Black Lock Screw located on the lower portion of Posts (S2 & T1) using the Lock Screwdriver .
(2) Turn top of post with Hex. Wrench (1.5mm) slightly in either direction as necessary to the correct clearance as shown in Fig.M9.

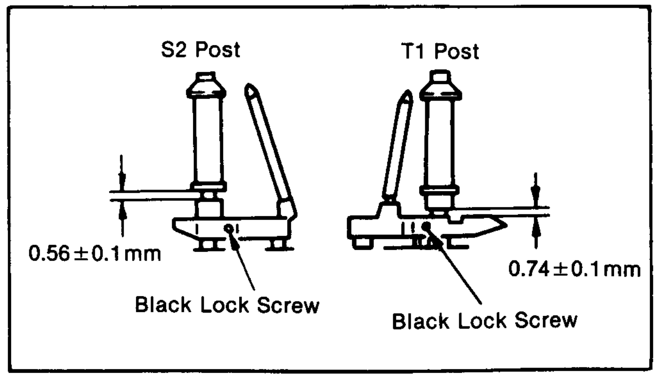

S2 Post
T1 Post
0.56±0.1mm
0.74±0.1mm
Black Lock Screw
Black Lock Screw

Fig.M9

2-3-5. TAPE INTERCHANGEABILITY ADJUSTMENT (FINAL ADJUSTMENT)

Note:
1) To perform these adjustment/confirmation procedures, make sure that the Tracking Control is set in the fixed (neutral) positionby pushing both of the Tracking Control Up/Down Switches, on the Main C.B.A., in at the same time.
2) Before these adjustment/confirmation procedures, remove the cassette protective Tape Cover from a Cassette Tape or the Alignment Tape (VFM8180H8PF).

- * Equipment Required:
  Dual Trace Oscilloscope
  Alignment Tape .... (VFM8180H8PF)
  Hex. Wrench (1.5mm)

1. Confirmation of Tape Travel

(1) Play back a cassette tape and confirm that the tape travels without curling at the upper and lower guides on Posts S2 and T1.

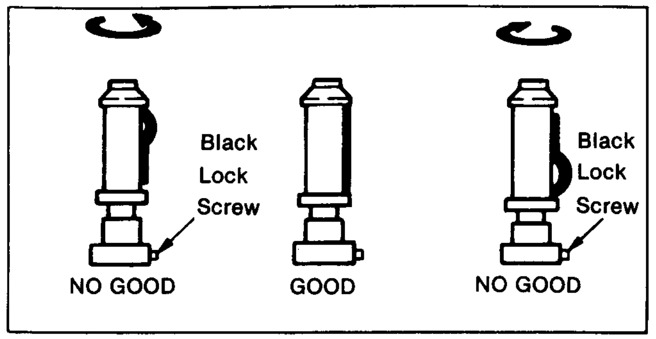


Fig.M10

(2) If curling is apparent, adjust the height of posts by turning the top of Post with Hex. Wrench. (for S2 and T1)

Note:
Before turning S2 and T1, slightly loosen the Black Lock Screw using the Lock Screwdriver.

2. Confirmation of A/C Head

This confirmation is required when the A/C Head or Capstan Motor is replaced and for a preliminary height adjustment.
For final adjustment, perform items 3 and 4.

(1) Looking at the lower edge of the Control Head with the tape in motion, ensure that the lower edge of the tape runs 0.25mm above the lower edge of the Control Head. If it doesn't, turn Black Screw (A) slightly in either direction as necessary to correct it. Turn clockwise to lower the head and counterclockwise to raise it.

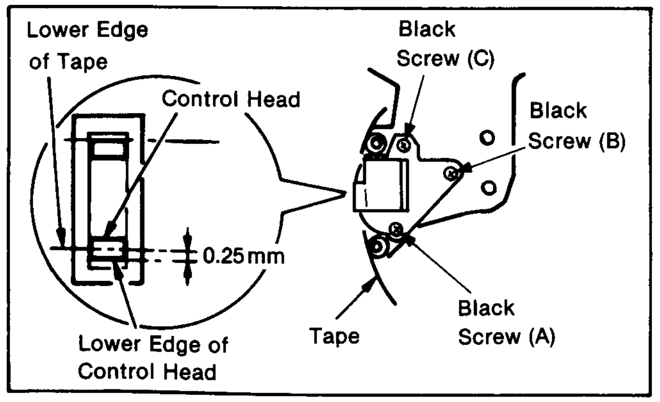


Fig.M11

3. Confirmation of Tilt of A/C Head

(1) Play back a cassette tape and confirm that the tape runs properly between lower and upper limits of T3 Post. Also confirm that the tape is running smoothly.
(2) If adjustment is required, turn Black Screw (B), in Fig.M11, counterclockwise until curing is appearmentat lower edge of T3 Post.
Then turn Black screw (B) clockwise until the curling smoothes.

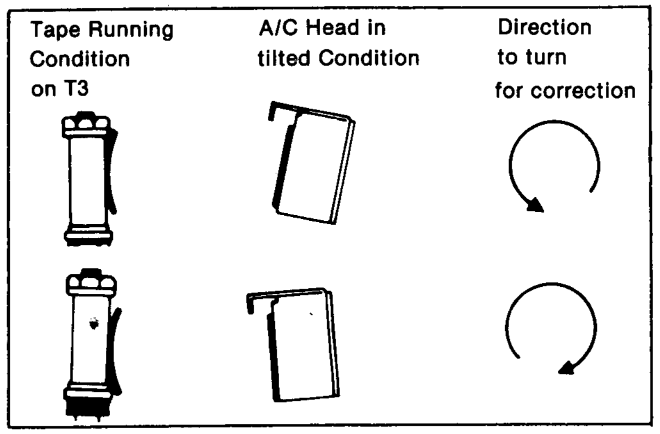


Fig.M12

4. Height and Azimuth Adjustment of A/C Head

(1) Connect the oscilloscope to Audio Line Output.
(2) Play back the Monoscope portion (6KHz, Mono) of the Alignment Tape.
(3) Adjust Black screw (C) on the A/C Head Base in Fig.M11 so that the output level is at a maximum.

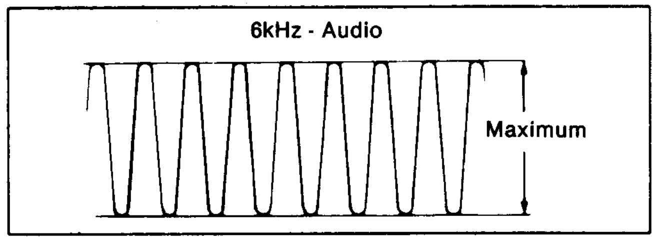


Fig.M13

(4) Readjust Block screw (A) shown in Fig.M11 for maximum output.
(5) Disconnect the oscilloscope.

5. Horizontal Position Adjustment of A/C Head

(1) Set the tracking control to the fixed (neutral) position by pushing both of the tracking control Up/Down Switches, on the Main C.B.A., in at the same time. Connect the oscilloscope to TP3501 on the Main C.B.A. Use TP2001 as a trigger.
(2) Play back the monoscope portion of the Alignment Tape and confirm that RF envelope appears,as in Fig.M15.
(3) If adjustment is reqired, slowly move the A/C Head Base back and forth using a screwdriver by turning screw (D) so that the envelop is at a maximum.

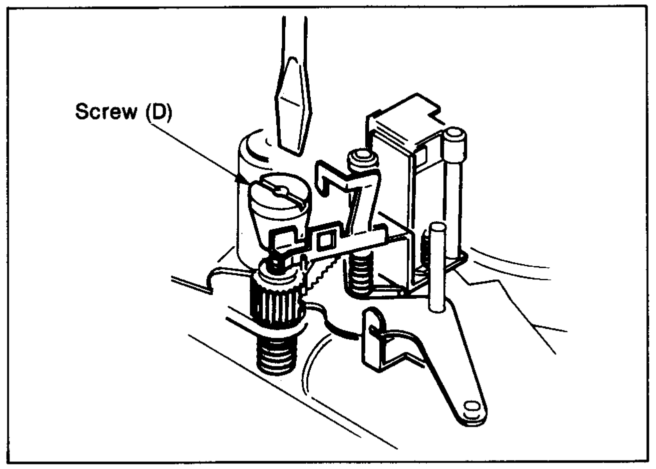


Fig.M14

(4) Confirmation of the correct adjustment can be made by alternately pushing the Tracking Control Up/Down Switches, on the Main C.B.A. to check the symmetry of the envelope.
(5) Reconfirm the symmetry of the envelope. If it has cahnged, repeat step (3) and (4) .

6. Confirmation/Adjustment of Envelope Output

(1) Set the tracking control to the fixed (neutral) position by pushing both of the tracking control Up/Down Switches, on the Main C.B.A., in at the same time. Connect the oscilloscope to TP3501 on the Main C.B.A. Use TP2001 as a trigger.
(2) Playback the Monoscope portion of the Alignment Tape and adjust the height of posts S2 and T1 watching the scope display so that the envelope becomes as flat as possible.
(V1/V−max >= 0.7, V2/V−max >= 0.8)
If adjustment is required, turn top of post with Hex. Wrench (1.5mm). For adjustment of S2 and T1, refer to Item 1 and it's Note.

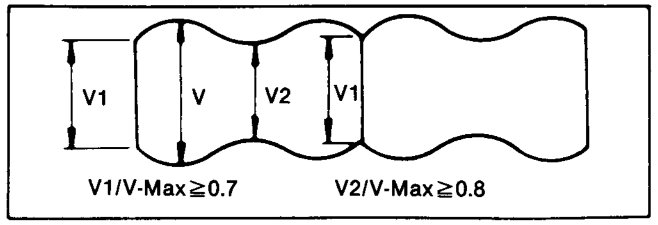


Fig.M15

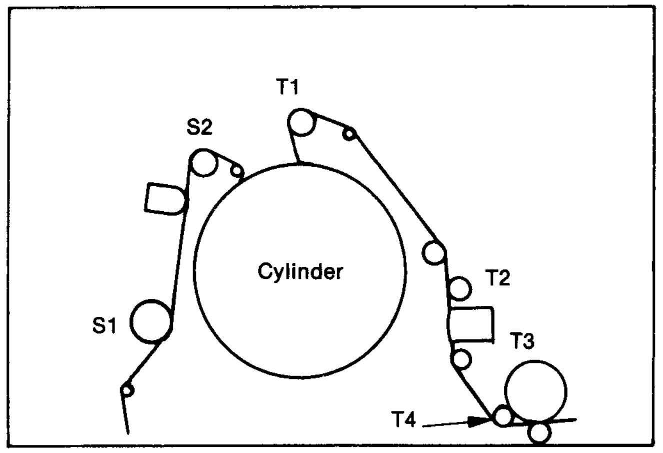


Fig.M16

(3) When the scope display is as shown in Fig.M17, ajust the height of S2 so that the waveform looks like Fig.M19.

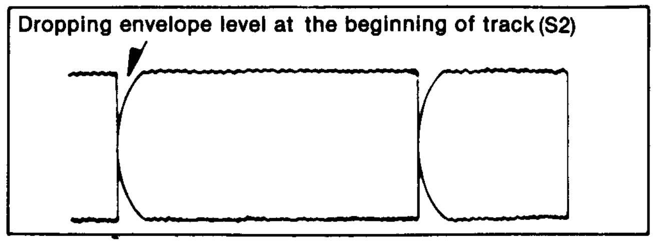


Fig.M17

(4) When the scope display is as shown in Fig.M18, adjust the height of T1 so that the waveform looks like Fig.M19.

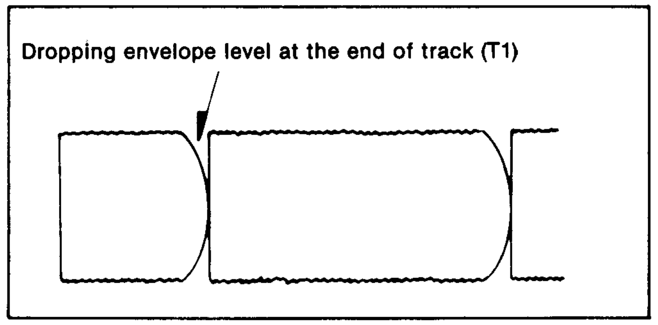


Fig.M18

(5) The scope display should appear as shown in Fig. M24 when S2 and T1 Posts are ajusted properly.

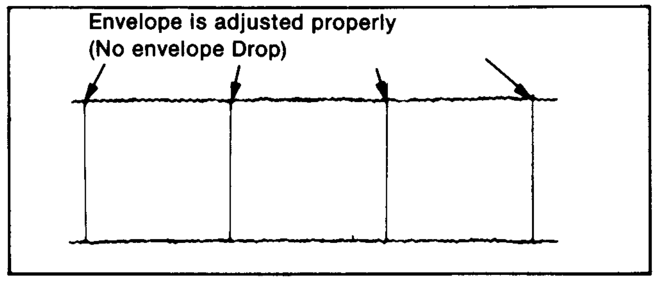


Fig.M19

Note:
1) Upon completion of adjustment of S2 and T1, tighten the Black Lock Screw on S2 and T1 using Lock Screwdriver. Then confirm the Horizontal Position of A/C Head by pushing the Tracking Control Up or Down switches on the Main C.B.A. alternately to check the symmetry of the envelope. And if required, perform "Horizontal Position Adjustment of A/C Head".
2) After these adjustment/confirmation procedures, replace the cassette protective Tape Cover.

2-3-6. ASSEMBLY AND ADJUSTMENT PROCEDURE OF MECHANISM

This procedure starts with the condition that the Cabinet parts and Cassette Up Unit have been removed.
When re-assembling, perform the step (s) in the reverse order.

STEP/ LOC No.	START-ING No.	PART		REMOVAL		INSTALLATION
				Fig. No.	REMOVE * UNHOOK/UNLOCK/ RELEASE	ADJUSTMENT #CONDITION ∗REMARKS
①	1	RT (S) UNIT D.D. CYL. UNIT	T/ B	M22, 23	3 (S-0) * Connectors	* Remove the Earth Plate before Step ①
②	3	TAKEUP REEL GEAR	T	M21, 23	(C-1), (W-1) <Note 1>	(+)
③	3	CLUTCH GEAR UNIT	T	M21, 23	(C-2), (W-2) <Note 1>	(+)
④	4	SOFT BRAKE T UNIT	T	M21, 23	(C-3), * (P-1) <Note 1>	(+)
⑤	6	HEAD AMP ANGLE	T	M24	2 (S-2), (S-3) * Connector	* Remove the Head amp Unit before Step ⑤.
⑥	6	MODE SELECT SWITCH UNIT	T	M21, 24	(S-3) * Connector	Align the Punch Mark with the Notch. # STOP MODE
⑦	6	TAPE GUIDE LEVER UNIT	T	M21, 24	(C-4), * (P-2) <Note 1>	See, Hooking Position.
⑧	7	IDLER GEAR	T	M21, 25	································	(+) Align the Notch with the Shaft of Loading Idle Gear. # STOP MODE
⑨	8	SECTOR GEAR UNIT	T	M21, 25	(C-5)	(+) Align the Hole with the Notch. # STOP MODE
⑩	9	A/C HEAD & BASE UNIT	T	M21, 25	4 (N-1) for removal of A/C HEAD	<Note 2>
⑪	10	MOTOR GEAR	T	M21, 26	(C-5) <Note 1>	(+) # STOP MODE (Fig. M31)
⑫	11, 10	LOADING MOTOR UNIT	T	M26	2 (S-5)	<Note 2>
⑬	10	TAPE GUIDE LEVER UNIT	T	M21, 26	(R-1), * (P-3)	See, Hooking Position.
⑭	14	TENSION ARM UNIT	T	M21, 27	(C-7), (W-3) <Note 1>	(+) See, Adjustment of Tension Post Position. Align the Punch Mark with the Notch. # Loading
⑮	15	SUPPLY REEL TABLE UNIT	T	M21, 27	(C-8), (W-4) <Note 1>	(+)
⑯	15	TENSION BAND ARM UNIT	T	M21, 27	(C-9), * (P-4) <Note 1>	(+)
⑰	16, 14	CASSETTE STAND S ASS'Y	T	M21, 28	2 (S-6), * Connector	(+) <Note 2>

Fig.M20

STEP/ LOC No.	START-ING No.	PART		REMOVAL		INSTALLATION
				Fig. No.	REMOVE * UNHOOK/UNLOCK/ RELEASE	ADJUSTMENT #CONDITION ∗REMARKS
⑱	18	SHIELD COVER	B	M22	(S-7)	
⑲	18, 11, 10, 2	LOADING GUIDE ASS'Y	T	M21, 29	6(S-8), * (L-1), * Connector	(+) <Note 2> <Note 3> # Loading
⑳	19	TAKEUP SHAFT HOLDER ASS'Y	T	M21	(C-10)	(+) <Note 1>
㉑	19	SUPPLY SHAFT HOLDER ASS'Y	T	M21	································	(+)
㉒	19	V STOPPER BASE ASS'Y	T	M21	2 (S-9)	
㉓	19, 13	PRESSURE ROLLER ARM UNIT	T	M21, 30	(R-2), (C-11), * (P-5), <Note 1>	(+) See, Hooking Condition.
㉔	23, 5	CAPSTAN MOTOR UNIT	T	M21, 22, 30	* Capstan Belt, 3 (S-10), * Connector	<Note 2> See, Replacement of Capstan Motor Unit.
㉕	4	CASSETTE STAND-T	T	M21, 30	2(S-11)	(+) <Note 2>
㉖	19	RING GUIDE 1	T	M31	(S-12)	See, setting condition.
㉗	19	RING GUIDE 3	T	M31	(S-13)	See, setting condition.
㉘	27, 26, 21, 20	LOADING RING S UNIT	T	M21, 31	································	(+) Align the Hole with punch Mark.
㉙	28	LOADING DRIVE GEAR-T	T	M31	(C-12) <Note 1>	(+)
㉚	28	RING GUIDE GEAR-S (2 USED)	T	M31	································	································ White Colour Gear
㉛	31	RING LIMITER	T	M21, 32	(S-14)	
㉜	28	LOADING RING T UNIT	T	M31, 32	································	See, setting Condition. Align the Punch Mark with the Notch.
㉝	31	LOADING IDLE GEAR	T	M21, 32	································	(+) Align the Punch Mark with the Notch.
㉞	32, 28, 19	RING GUIDE GEAR-T (2 USED)	T	M32	································	(+) Black Color Gear # STOP MODE
㉟	10	LOADING DRIVE GEAR-S	T	M31, 32	(C-13) <Note 1>	(+)
㊱	33, 32, 30, 28	RING GUIDE-2	T	M31, 32	(S-15)	
㊲	32, 28, 22, 19, 17	LOADING GUIDE-S UNIT	T	M33	3(S-16)	<Note 2>

List of Abbreviations:
T=Top, B=Bottom,
(R-1)=Retaining Ring (R-1); (P-1)=Spring (P-1); (S-1)=Screw (S-1);
(W-1)=Washer (W-1); 2(S-2)=2 Screws (S-2); (C-1)=Cut Washer (C-1):
(L-1)=Locking Tab (L-1)
(N-1)=Nut (N-1)
(+)=Refer to Exploded Views for Lubrication information

TOP VIEW

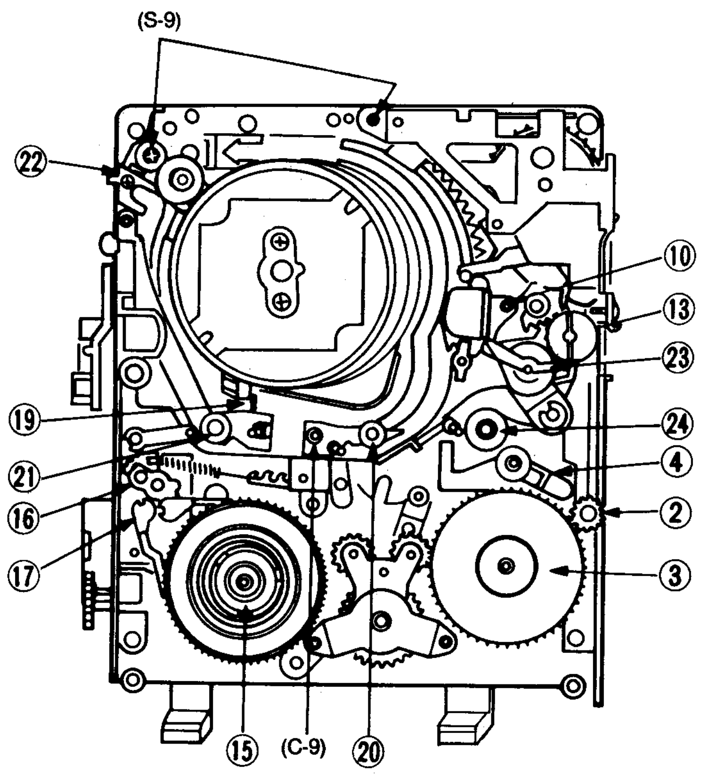

(S-9)
㉒
⑩
⑬
㉓
⑲
㉔
㉑
④
⑯
②
⑰
③
⑮
(C-9)
⑳

Fig.M21

BOTTOM VIEW

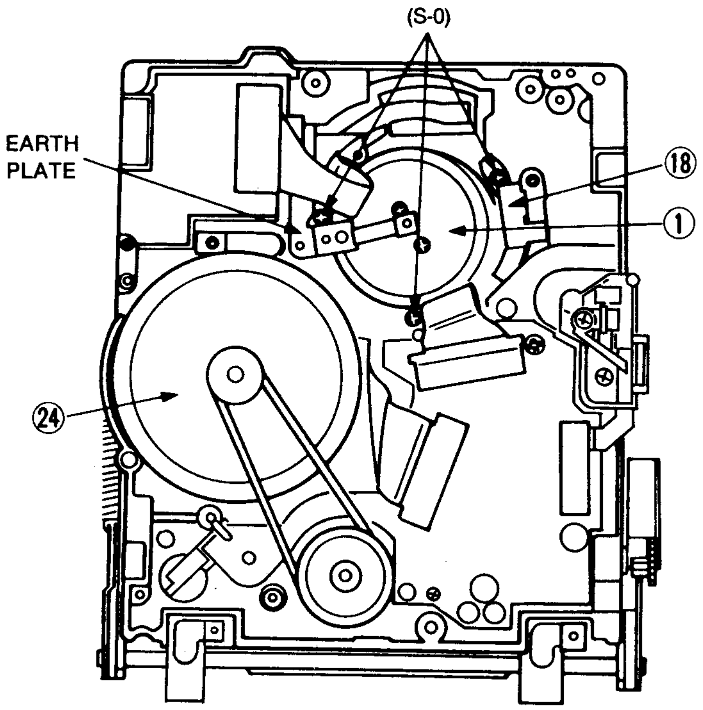

(S-0)
EARTH PLATE
⑱
①
㉔

Fig.M22

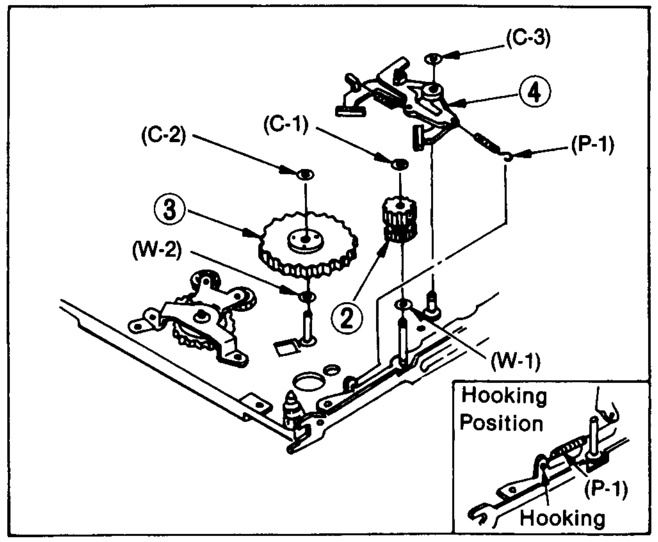

(C-3)
④
(C-2)
(C-1)
(P-1)
③
(W-2)
②
(W-1)
Hooking Position
(P-1)
Hooking

Fig.M23

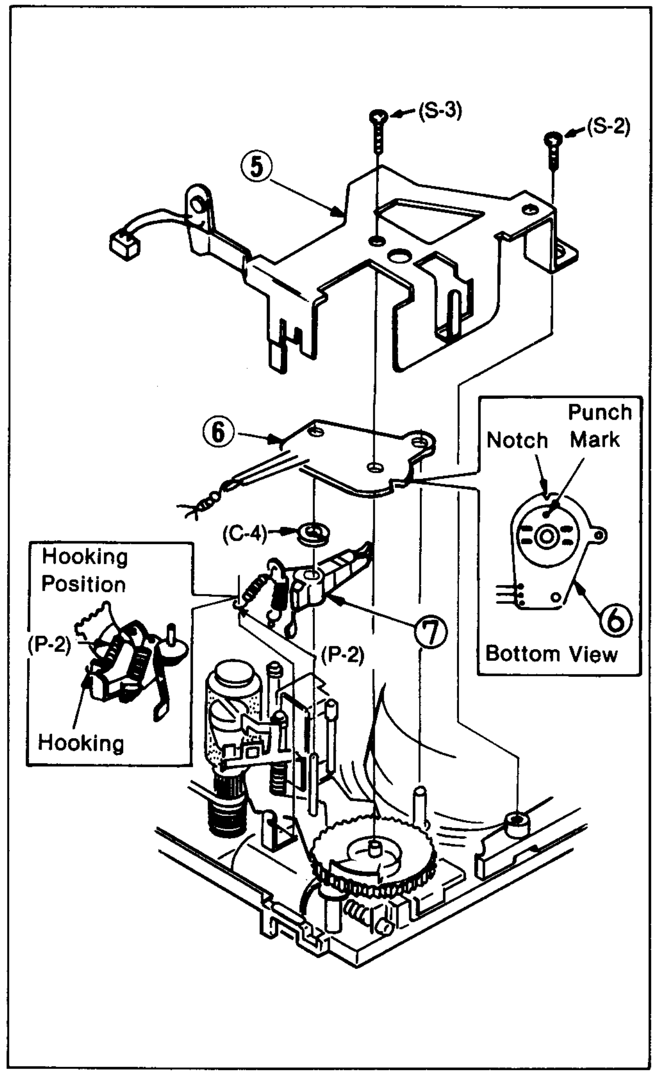

(S-3)
(S-2)
⑤
⑥
Punch Mark
Notch
(C-4)
Hooking Position
(P-2)
⑦
(P-2)
Hooking
⑥
Bottom View

Fig.M24

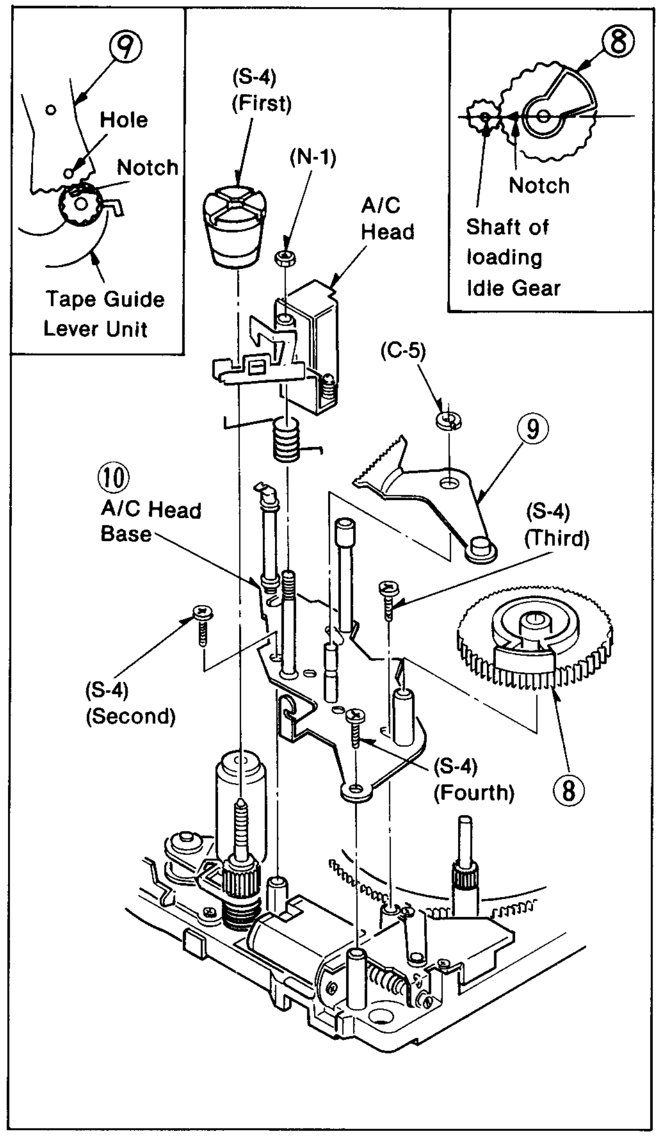
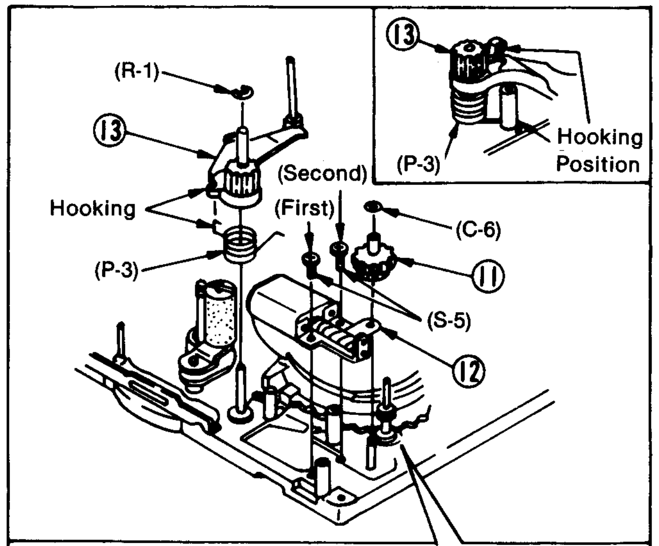

⑨
Hole
Notch
Tape Guide Lever Unit
(S-4) (First)
(N-1)
A/C Head
⑧
Notch
Shaft of loading Idle Gear
(C-5)
⑨
⑩ A/C Head Base
(S-4) (Third)
(S-4) (Second)
(S-4) (Fourth)
⑧

Fig.M25


⑬
(R-1)
⑬
Hooking
(Second)
(First)
(C-6)
⑪
(P-3)
(S-5)
⑫
(P-3)
Hooking Position

Align the hole of Gear with the hole in chassis.

▨ Loading Drive Gear S

▨ Chassis

Fig.M26

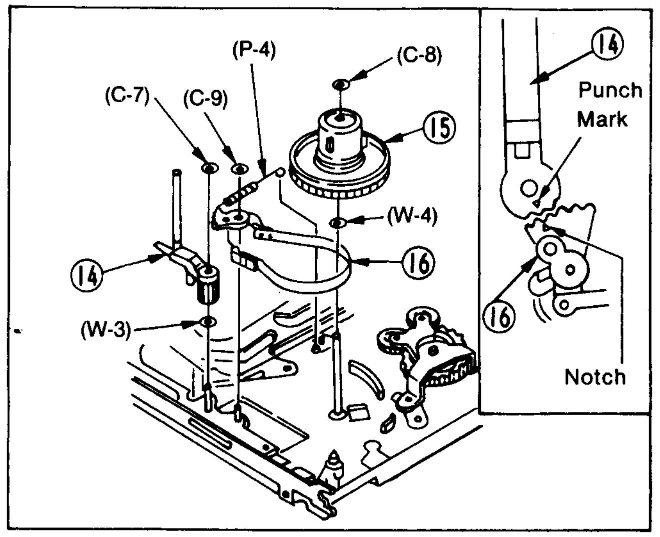

(P-4)
(C-8)
(C-7)
(C-9)
⑮
(W-4)
⑭
⑯
(W-3)
⑭
Punch Mark
⑯
Notch

Fig.M27

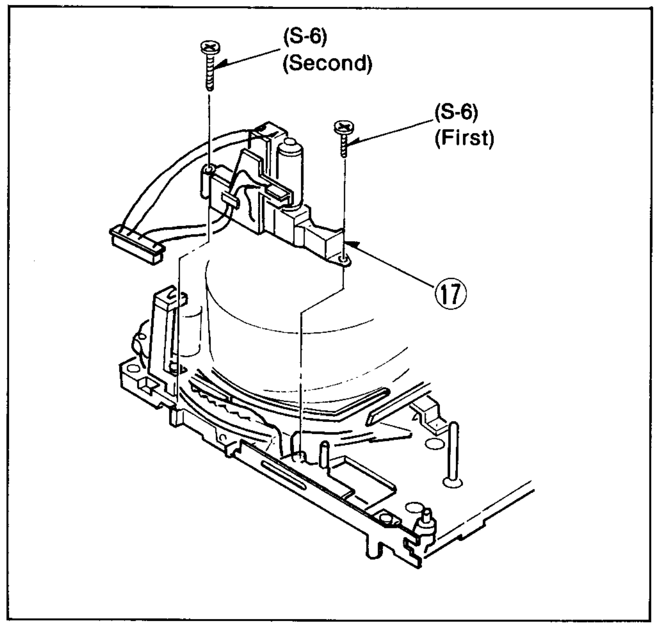

(S-6) (Second)
(S-6) (First)
⑰

Fig.M28

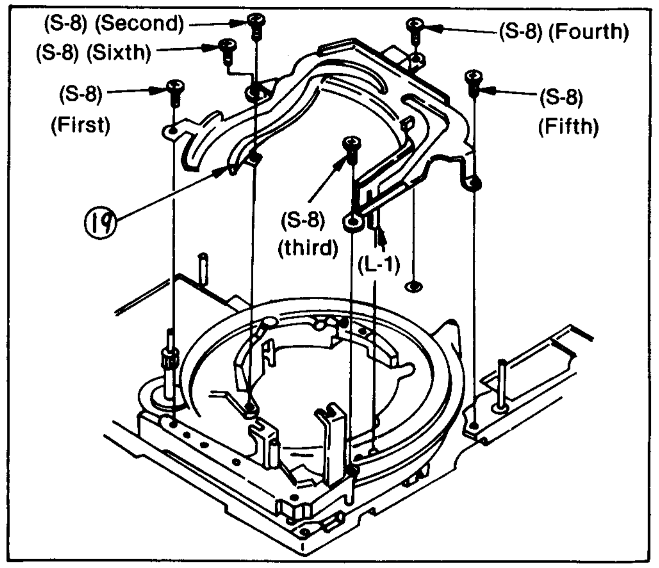

(S-8) (Second)
(S-8) (Fourth)
(S-8) (Sixth)
(S-8) (First)
(S-8) (Fifth)
⑲
(S-8) (third)
(L-1)

Fig.M29

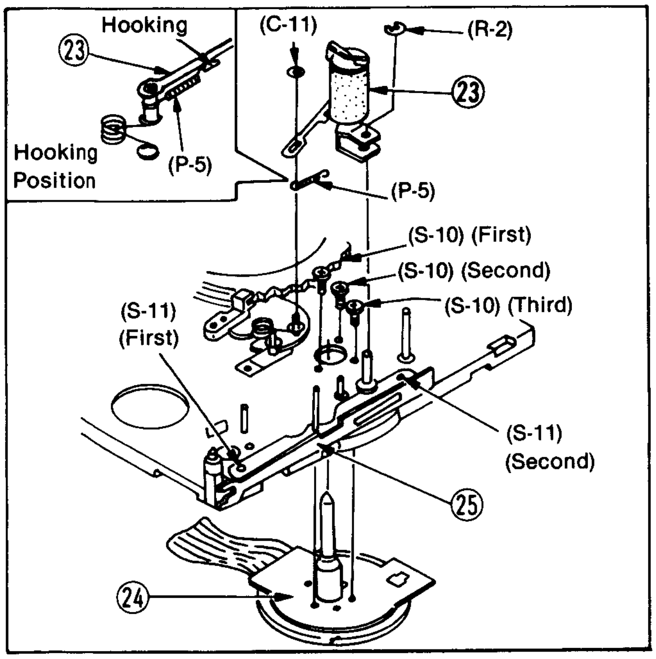

Hooking
㉓
Hooking Position
(P-5)
(C-11)
(R-2)
㉓
(P-5)
(S-10) (First)
(S-10) (Second)
(S-10) (Third)
(S-11) (First)
(S-11) (Second)
㉕
㉔

Fig.M30

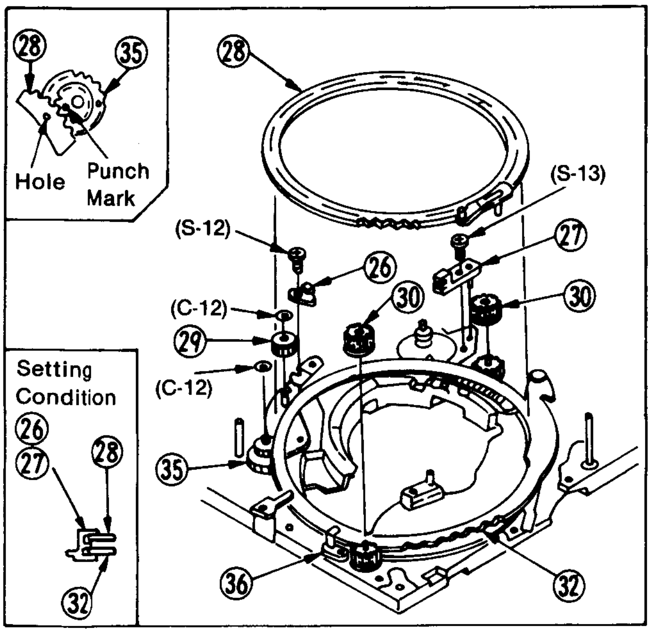
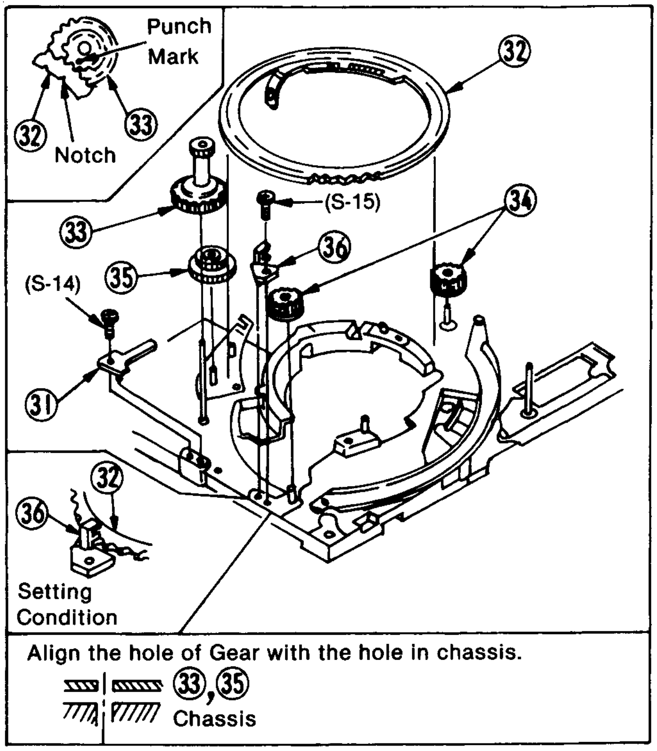

㉘
㉟
Hole
Punch Mark
㉘
(S-13)
(S-12)
㉖
㉗
(C-12)
㉚
㉚
㉙
Setting Condition
㉖
㉗
㉘
(C-12)
㉟
㉜
㊱
㉜

Fig.M31


Punch Mark
㉜
㉝
Notch
㉜
(S-15)
㉞
㉝
㊱
(S-14)
㉟
㉛
㉜
㊱
Setting Condition
㉝,㉟
Chassis

Align the hole of Gear with the hole in chassis.

Fig.M32

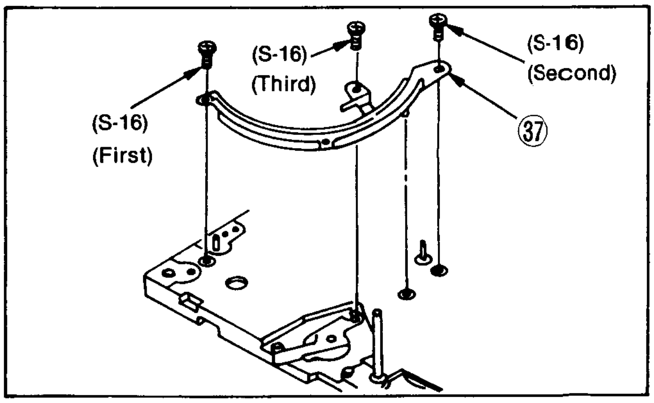

(S-16) (Third)
(S-16) (Second)
(S-16) (First)
㊲

Fig.M33

Reference's <Notes> in Table 7 :

1. This Cut Washer is not reusable. If removed, install a new one.
2. In each figure, tighten the screws in the order indicated in the diagram.
3. Remove the shield cover over the PG Pickup to allow the release of (L–1).

2–3–7. Adjustment procedures of mechanism

The mechanism is mostly engaged to the system control circuit through the mode delect switch.
If the mechanical parts are not fixed properly, the VCR unit will be unloaded or compulsorily stopped.
And it finally will result being damaged at any mechanical or electrical parts.

This mechanical adjustment should be always performed in STOP mode so that the mechanical parts are correctly aligned as next.

(1) As shown in Fig.M34, install the Loading Idler Gear and Loading Drive Gear(S) so that the small hole on the Loading Idler Gear and small hole on the Loading Drive Gear(S) are exactly line with the holes of Chassis.

(2) Install the Loading Ring(T) Unit so that the groove on Lading Ring(T) Unit comes to small hole on Laoding Idler Gear.

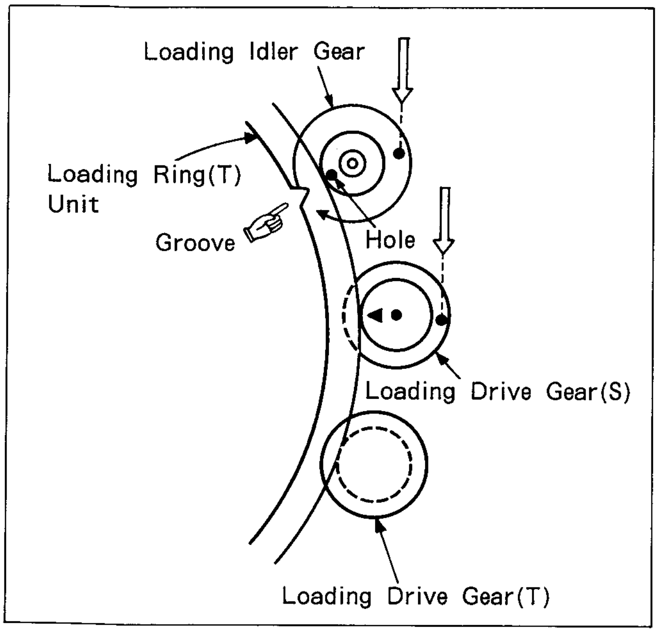

Loading Idler Gear
Loading Ring(T) Unit
Groove
Hole
Loading Drive Gear(S)
Loading Drive Gear(T)

Fig.M34

(3) As shown in Fig.M35, install the Loading Ring(S) Unit comes to projection with arrow mark on Loading Drive Gears(S).

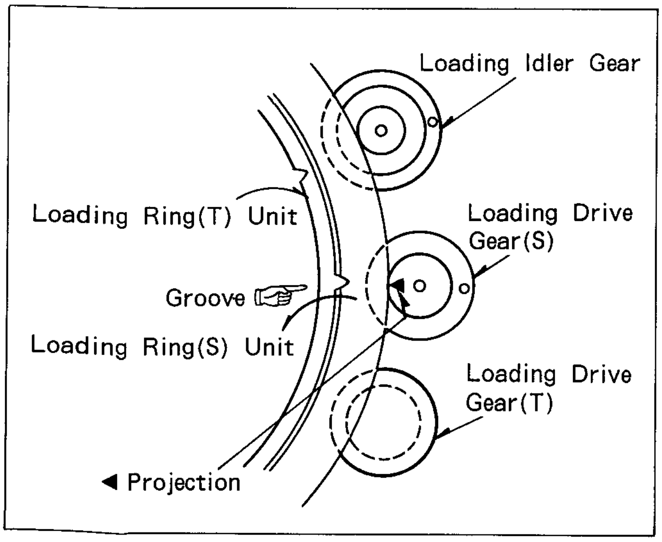

Loading Idler Gear
Loading Ring(T) Unit
Loading Drive Gear(S)
Groove
Loading Ring(S) Unit
Loading Drive Gear(T)
◀ Projection

Fig.M35

(4) As shown in Fig.M36, after installation of Loading Ring Guides, Loading Motor Unit, Loading Motor Gear and A/C Head Base Unit, install the Sector Gear Unit so that small hole on Sector Gear Unit comes to groove on Tape Guide Lever Unit.

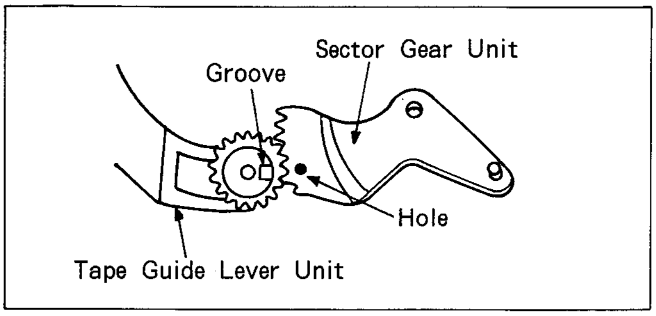

Sector Gear Unit
Groove
Hole
Tape Guide Lever Unit

Fig.M36

(5) As shown in Fig.M37, the small hole on Idler Gear are exactly line with the hole of A/C Head Base Unit.

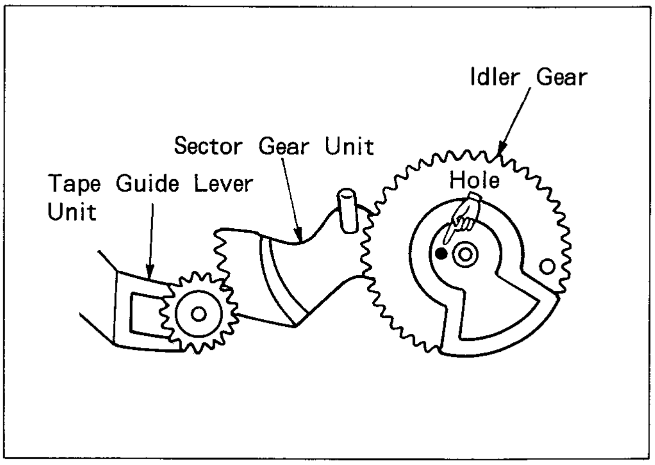

Idler Gear
Sector Gear Unit
Tape Guide Lever Unit
Hole

Fig.M37

(6) As shown in Fig.M38, install the Mode Switch so that the groove on Mode Switch comes to hole on Idler Gear. And then tighten a screw for fixing the Mode Switch.

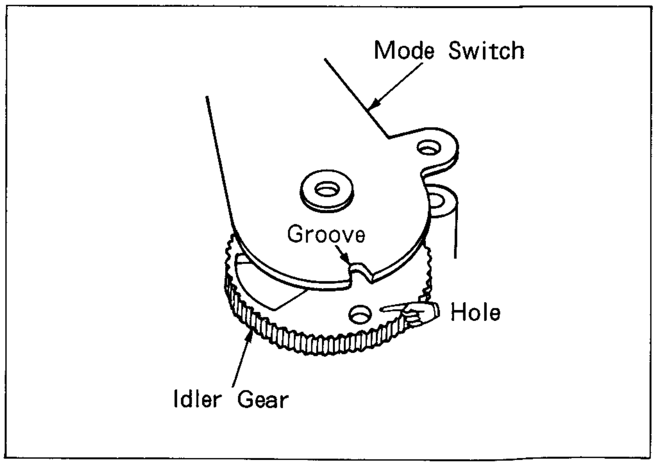

Mode Switch
Groove
Hole
Idler Gear

Fig.M38

2-4. ELECTRICAL ADJUSTMENT PROCEDURES

2-4-1. ELECTRICAL ADJUSTMENT FOR CAMERA SECTION

TEST EQUIPMENT AND TOOLS

The following equipment is required for adjustment of the CAMERA section.

1. Oscilloscope

   Dual Trace, 50MHz, 2mV/DIV
   10:1 Probe
   1:1 Probe

2. Digital Volt Meter or VTVM
3. Frequency Counter
4. Vectorscope
5. Light Meter
6. Tripod
7. Colour Video Monitor
8. Lighting
   140 foot-candles (1400lux), on the chart surface 3200 degrees K.
9. Reflection Chart

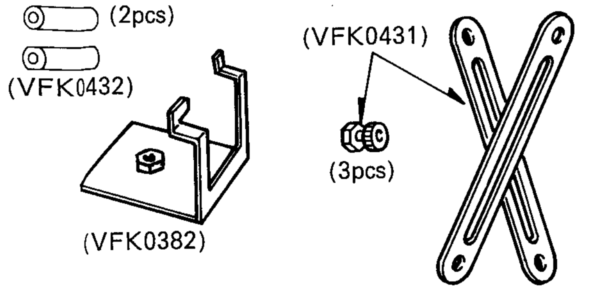
   *Logarithmic Gray Scale Chart
   (Part No. : YWV2310RB99)
   *Colour Chip Chart
   (Part No. : YWV2100RB98)
   *Ball Chart
   (Part No. : VFK0580)
   *Hunting Chart
   (Part No. : VFK0546)
   *White Chart (Card)
   (Part No. : VFK0546)
   *J Chart
   (Part No. : VFK0580)
   *B/W Chart
   (Part No. : VFK0546)
   *Gray-White Chart
   (Part No : VFK0546)
   *Colour Bar Chart
   (Part No : VFKS003B)

10. Plastic Tip Driver
11. Camera Unit Holder

    (Part No. : VFK0382)

12. Camera Holder Arm/Holder Spacer

    (Part No. : VFK0431/VFK0432)


(2pcs)
(VFK0432)
(VFK0431)
(3pcs)
(VFK0382)

CAMERA UNIT HOLDER
,CAMERA HOLDER ARM AND HOLDER SPACER

Fig. T1

13. Colour temperature conversion filter
    *C12 Filter (Part NO. : VFK0374)
    *C2 Filter (Part NO. : VFK0375)
    *C8 Filter (Part NO. : VFK0547)

14. Camera Extension Cables
    Extension Cable (24PIN) (Part NO : VFK0606)
    Extension Cable (20PIN) (Part NO : VFK0610)
    Extension Cable (26PIN) (Part NO : VFK0607)
    Extension Cable (13PIN) (Part NO : VFK0614)
    Extension Cable (22PIN) (Part NO : VFK0609)
    Extension Cable (10PIN) (Part NO : VFK0638)
    Extension Cable (18PIN) (Part NO : VFK0494)
    Extension Cable (12PIN) (Part NO : VFK0631)
    Extension Cable (4PIN) (Part NO : VFKS0068)
    Extension Cable (2PIN) (Part NO : VFKS0060)
    CONNECTOR (Part NO : VFK0640)

PREPARATON

1). Remove the Side Case (L) and Side Case (R) from the Unit.
(Refer to the Disassembly Section.)
2). Mount the Camera Unit on the tripod using the Camera Unit Holder (VFK0382) and Camera Holder Arm (VFK0431).
3). Connect the Camera Unit, Video Recorder Unit, AC Adaptor, Camera Operation Unit and Colour Monitor TV as shown in Fig. T2.
4). Remove the flexible Cable (Which is connected between FP307 and P1002).
5). Connect the Extension cable (VFK0614) between FP307 and P1002.
6). Set the camera unit to tripod using camera holder (VFK0382) and camera holder arm (VFK0431) USING HOLDER SPACERS (VFK0432). (refer to Technical Information).

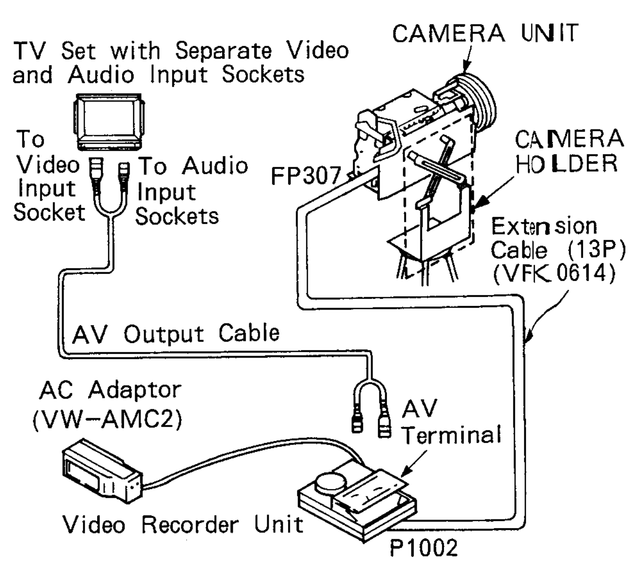

TV Set with Separate Video and Audio Input Sockets
CAMERA UNIT
To Video Input Socket
To Audio Input Sockets
FP307
CAMERA HOLDER
Extension Cable (13P) (VFK0614)
AV Output Cable
AC Adaptor (VW-AMC2)
AV Terminal
Video Recorder Unit
P1002

Fig. T2

Note:

<STANDARD SETTING FOR CAMERA ADJUSTMENT>
If there is no switch setting indication in adjustment procedures, set the camera switch as follows.

1) White Balance Switch --- Indoor
   Auto Focus ------------- OFF
   High Speed Shutter ----- OFF
2) For trigger oscilloscope, use Y output terminal FP307-6.
3) Use 3200 degrees Kelvin light source to light.

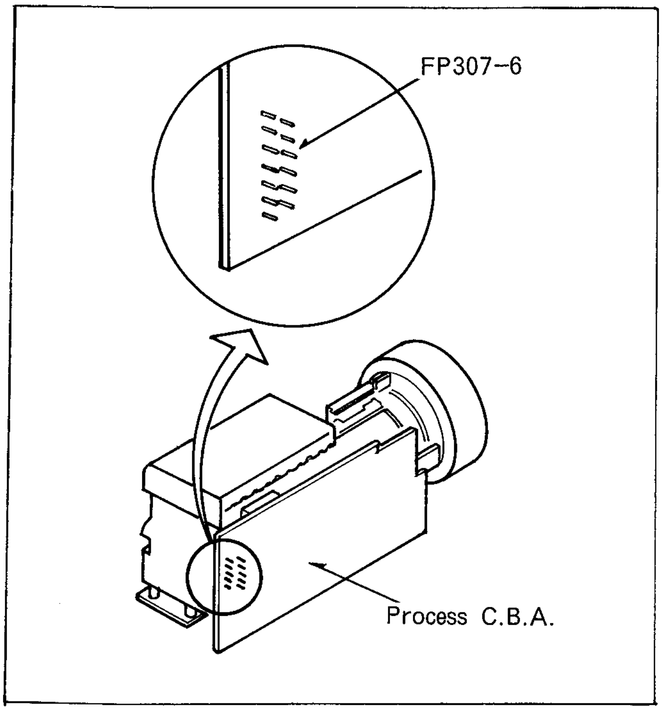
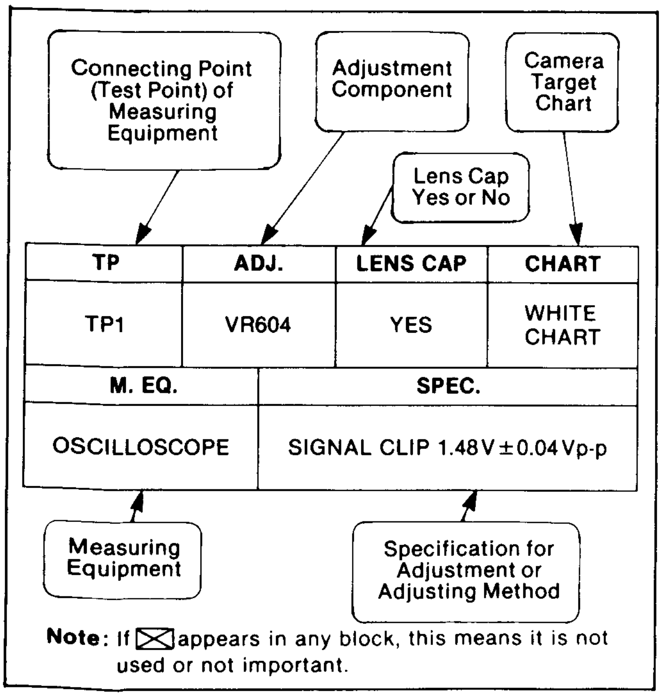

FP307-6
Process C.B.A.

Fig. T3

HOW TO READ THE ADJUSTMENT PROCEDURES


Connecting Point (Test Point) of Measuring Equipment
Adjustment Component
Camera Target Chart
Lens Cap Yes or No
Measuring Equipment
Specification for Adjustment or Adjusting Method

TP	ADJ.	LENS CAP	CHART
TP1	VR604	YES	WHITE CHART
M. EQ.	**SPEC.**		
OSCILLOSCOPE	SIGNAL CLIP 1.48V±0.04Vp-p		

Note: If ☒ appears in any block, this means it is not used or not important.

Fig. T4

CCD DRIVE SECTION

1. BACK FOCUS ADJUSTMENT

(1) Aim the Camera at the Hunting Chart 3m distance and zoom all the way in (Fully tele position.)
(2) Focus the lens on the object.
(3) Confirm that Focus-ring indicates 3m.
(4) Adjust the relay lens adjustment point as shown in Fig. C1.

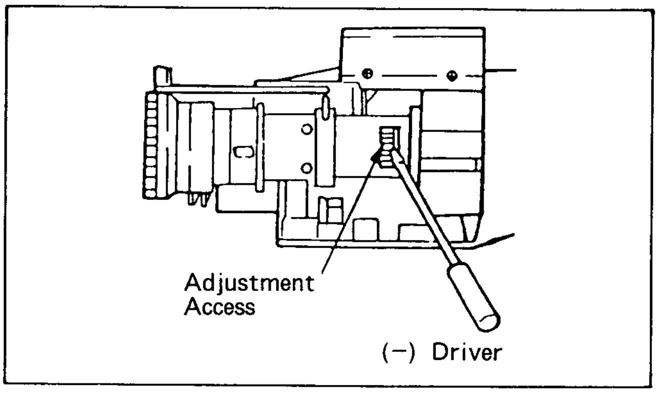

Adjustment Access
(−) Driver

Fig. C1

(5) Zoom all the way back and adjust the back focus pitch so that the sharpest focus is obtained.
(6) Repeat the procedure as follows, zoom in, focus, zoom out and adjust until the best focus is obtained over the entire Zoom range.

2. ΦR BIAS ADJUSTMENT

TP	ADJ.	IRIS	CHART
TP201	VR203	FULLY OPEN	J CHART
M. EQ.		**SPEC.**	
OSCILLOSCOPE		WAVEFORM "A" IS MAXIMIZED	

Note:

VR203, VR201, TP201 : ON SENSOR C.B.A.
TP516, TP520 : ON PROCESS C.B.A.

(1) Set the zoom ring to fully TELE position. Aim the camera at J chart and connect the jumper wire between TP516 and TP520 to fully open iris.
(2) Pre-adjust VR201 (V-SUB VR) so that blooming or smear (vertical line) is appeared on TV screen.
(3) Connect the oscilloscope to TP201.
(4) Adjust the VR203 so that level "A" is maximized and signal does not distorted.

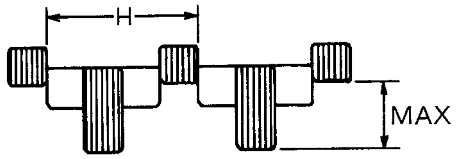


Fig. C2

3. V-SUB ADJUSTMENT

TP	ADJ.	IRIS	CHART
	VR201	FULLY OPEN	HALOGEN LAMP

M. EQ.	SPEC.
MONITOR TV	NO BLOOMING

Note:

VR201: Sensor C.B.A.

(1) Zoom all the way in (Fully tele position) and aim the camera at the Halogen Lamp as shown in Fig. C3.

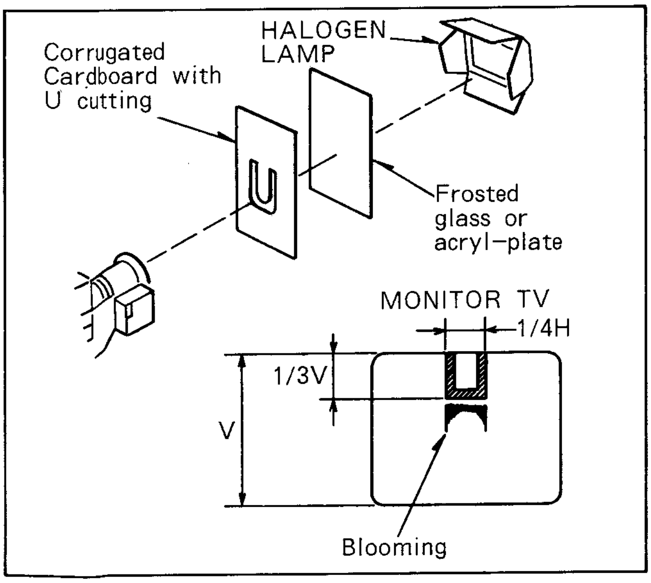

Corrugated Cardboard with U cutting
HALOGEN LAMP
Frosted glass or acryl−plate
MONITOR TV
1/4H
1/3V
V
Blooming

Fig. C3

(2) Set the High Speed Shutter SW to "OFF" portion.
(3) Blind the lighting using frosted glass or acryl plate to diffuse incoming light.
And also put a corrugated cardboard which inside is cut to "U" shape as shown in Fig. C4.

(4) Connect the jumper wire between TP516 and TP520 to open the Iris.
(5) Adjust VR201 so that blooming is just disappear.
(If blooming is not disappeared completely, adjust until minimum blooming)
(6) High Speed Shutter "ON" and "OFF" both mode, confirm that the monitored picture does not contain the Blooming even if the camera moves as shown in Fig. C4.

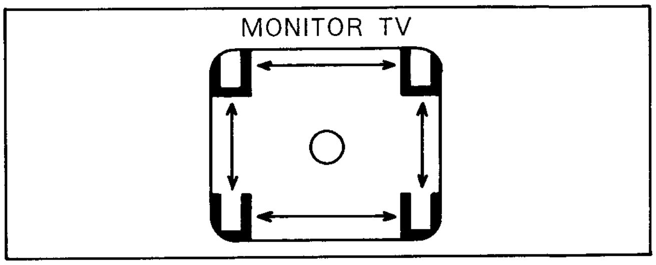


Fig. C4

Note:

J chart is also available for rough adjustment.

(1) Aim the camera at J chart.
(2) Set the lens to fully Tele position.
And set the distance so that lower 1/3 of J chart comes to full picture frame of TV screen.
(3) Connect the jumper wire between TP516 and TP520 to open the Iris.
(4) Adjust the VR201 so that blooming is just disappeared.

4. CCD OUTPUT ADJUSTMENT

TP	ADJ.	IRIS	CHART
TP201	VR202	CENTRE FIX	J CHART

M. EQ.	SPEC.
OSCILLOSCOPE	180mV+−10mV

Note:

TP201, VR202 : Sensor C.B.A.
TP515, VR327 : Process C.B.A.

(1) Aim the camera to J chart.
(2) Adjust the VR327 (Iris control) so that voltage at TP515 becomes 280mV+−10mV.
(3) Adjust the VR202 (CCD OUT control) so that level "A" becomes 180mV+−10mV as shown in Fig. C5.

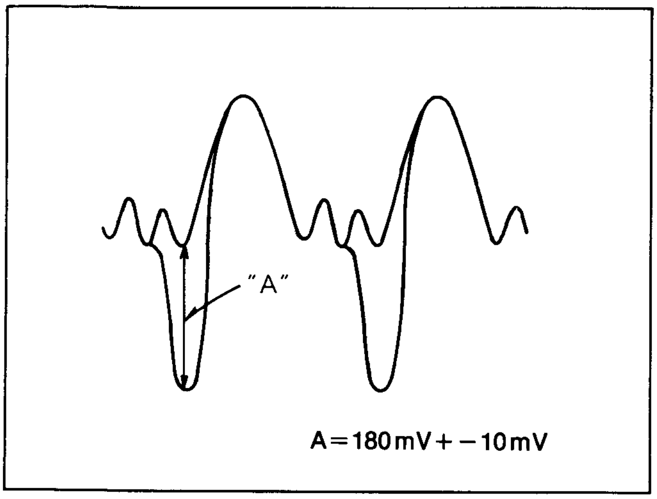


Fig. C5

POWER SECTION

5. PEDESTAL LEVEL ADJUSTMENT

TP	ADJ.	IRIS	CHART
TP514	VR301	FULLY CLOSE	

M. EQ.	SPEC.
OSCILLOSCOPE	SIGNAL LEVEL EQUALS THE BLANKING (BLANK) LEVEL.

Note:

TP514, VR301 : Process C.B.A.

(1) Connect the scope to TP514 and trigger with Pin 6 of FP307 (Y−OUT).
(2) Adjust the Pedestal Level Control (VR301) so that the signal level equals the BLK level as shown in Fig. C6.

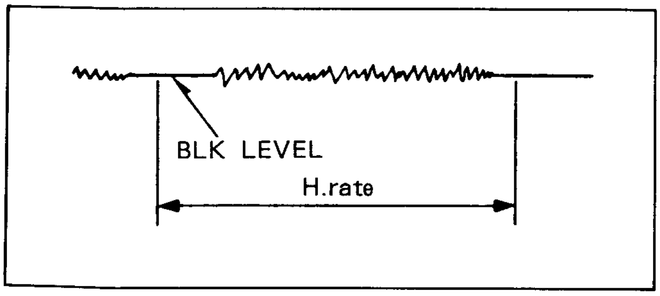


Fig. C6

6. IRIS VR ADJUSTMENT

TP	ADJ.	IRIS	CHART
TP523	VR322	CENTRE FIX	

M. EQ.	SPEC.
D.V.M	2.1V±0.1V

Note:

TP523, VR322 : Process C.B.A.

(1) Set the Iris VR to centre fix position.
(2) Cover the lens with lens cap.
(3) Connect the volt meter to TP523.
(4) Adjust the VR322 so that voltage at TP523 becomes 2.1V+−0.1V.

7. ALC ADJUSTMENT

TP	ADJ.	IRIS	CHART
TP515	VR327	CENTRE FIX	GRAY SCALE CHART

M. EQ.	SPEC.
OSCILLOSCOPE	0.28V+−0.02Vp-p

Note:

TP515, VR327 : Process C.B.A.

(1) Set the Iris VR to centre fix position.
(2) Aim the camera at the gray scale chart.
(3) Connect the scope to TP515 and trigger with Pin 6 of FP307 (Y−OUT).
(4) Adjust the Camera Unit to obtain 40usec picture frame as shown in Fig. C7.
(5) Adjust the Auto Iris Control (VR327) so that the signal level is 0.28V+−0.02Vp−p.

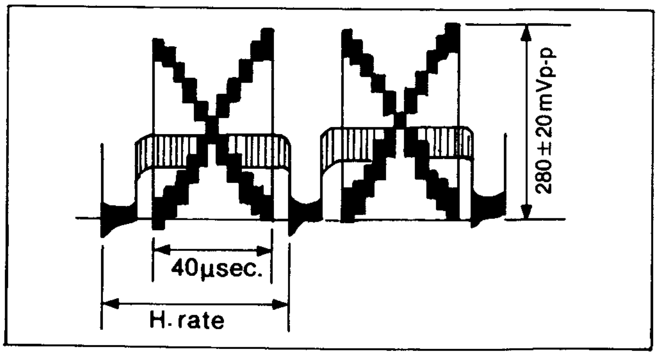


Fig. C7

8. YH GAIN ADJUSTMENT

TP	ADJ.	IRIS	CHART
PIN6 OF FP307	VR315	CENTRE FIX	CRAY SCALE CHART
M. EQ.		**SPEC.**	
OSCILLOSCOPE		B/A=2.33+–0.15	

Note:

VR315, FP307 : Process C.B.A.

(1) Aim the camera at the gray scale chart.
(2) Connect the scope to pin 6 of FP307.
(3) Adjust the YH Level Control (VR315) so that the signal level "B/A" is 2.33+–0.15 as shown in Fig. C8.

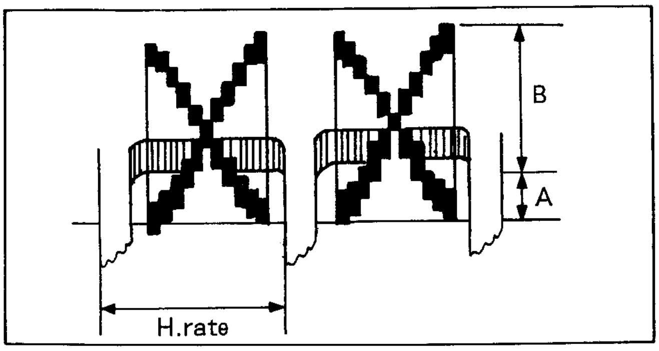


Fig. C8

9. CARRIER BALANCE AND BLACK PEDESTAL ADJUSTMENT

TP	ADJ.	IRIS	CHART
VIDEO OUTPUT	VR305 VR306 VR304	FULLY CLOSE	☒
M. EQ.	**SPEC.**		
VECTORSCOPE	CENTRE OF VECTORSCOPE		
OSCILLOSCOPE	WAVEFORM IS MINIMIZED		

Note:

VR304, VR305, VR306 : Process C.B.A.
WITH VECTORSCOPE

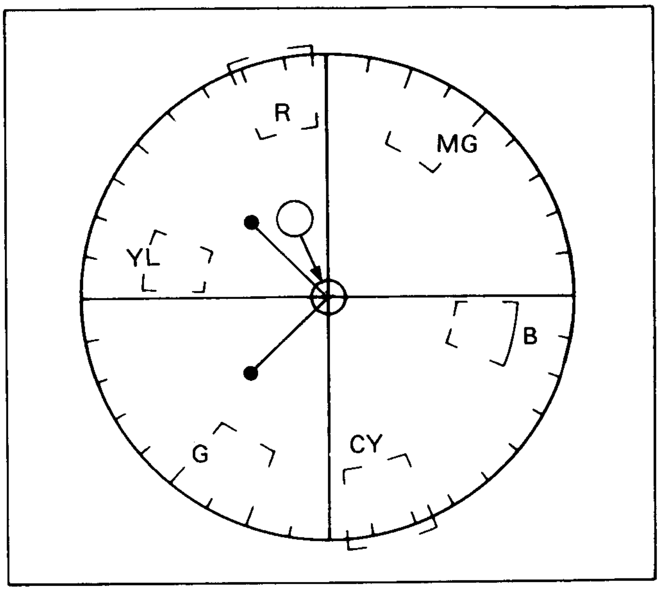


Fig. C9

(1) Adjust the Black Pedestal Controls (VR305, VR306) so that the colour vectors at the centre of screen on vectorscope.
(2) Disconnect the jumper wire.
(3) Adjust the Carrier Balance Controls (VR304) so that the colour vectors collect at the centre of screen on the vectorscope.

WITH OSCILLOSCOPE

(1) Adjustment condition and procedure are same as using vectorscope.
(2) Adjust VR305, and VR306, first and Adjust VR304 next so that the waveform is minimized as shown in Fig. C10.

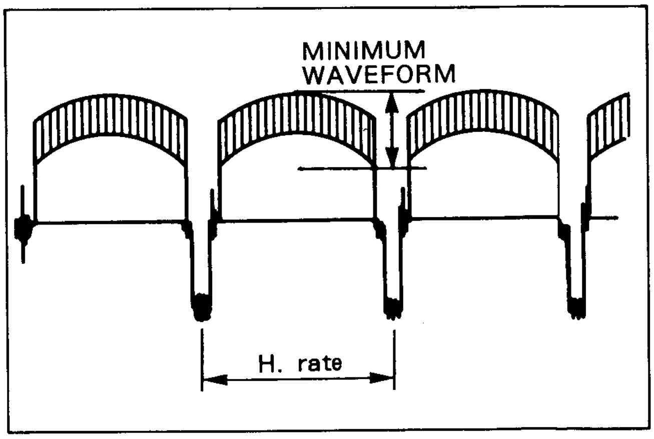


Fig. C10

10. CHROMA 1H/2H/3H DELAY LEVEL ADJUSTMENT (FOR TELEPHOTO MODE)

TP	ADJ.	IRIS	CHART
CL305 (Test Round) CL301 (Test Round) CL302 (Test Round) CL303 (Test Round)	VR532 VR530 VR531	CENTRE FIX	GRAY SCALE CHART
M. EQ.		**SPEC.**	
OSCILLOSCOPE		0+−4.5mV	

Note:

VR532, VR530, VR531 : Process C.B.A.

(1) Set the oscilloscope to "ADD" mode and "INVERT" mode for CH−2.
And connect the oscilloscope CH−1 to CL305 (Test Round) and CH−2 to CL301 (Test Round).
(2) Adjust VR532 so that the level of waveform becomes 0+−4.5mV as shown in Fig. C11.
(3) Next, Connect the oscilloscope CH−1 to CL305 (Test Round) and CH−2 to CL302 (Test Round).
(4) Adjust VR530 so that the level of waveform becomes 0+−4.5mV as shown in Fig. C11.
(5) Re−Connect the oscilloscope CH−1 to CL305 (Test Round) and CH−2 to CL303 (Test Round).
(6) Adjust VR531 so that the level of waveform becomes 0+−4.5mV as shown in Fig. C11.

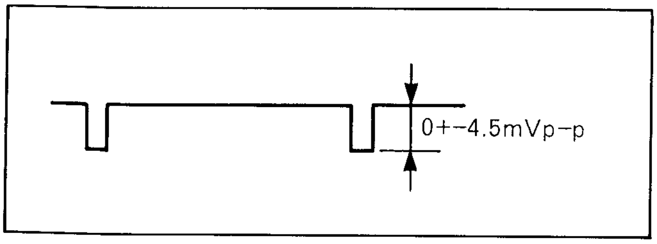


Fig. C11

11. INDOOR WHITE BALANCE ADJUSTMENT

TP	ADJ.	IRIS	CHART
VIDEO OUTPUT	VR311 VR312	CENTRE FIX	WHITE CHART
M. EQ.	**SPEC.**		
VECTORSCOPE	CENTRE OF VECTORSCOPE		
OSCILLOSCOPE	WAVEFORM IS MINIMIZED		

Note:

VR311, VR312 : Process C.B.A.

WITH VECTORSCOPE

(1) Set the White Balance Switch to "INDOOR" side.
(2) Aim the camera at the White Chart.
(3) Supply the video signal to the vectorscope.
(4) Adjust the White Balance Controls (VR311 and VR312) so that the colour vectors are collected at the centre of screen on the vectorscope as shown in Fig. C12.

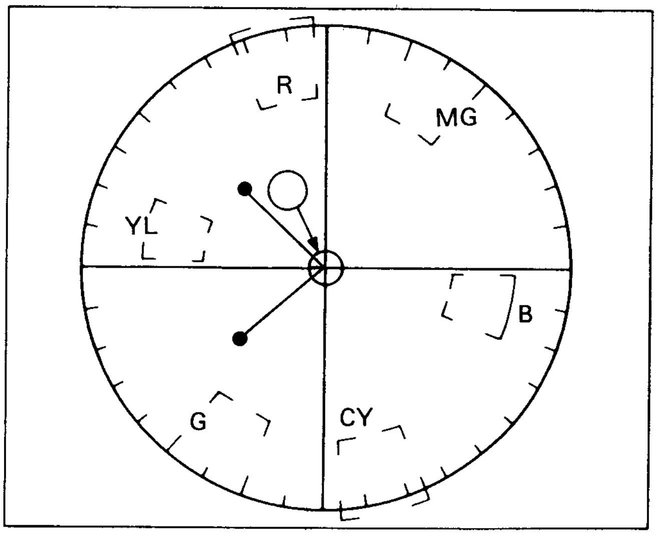


Fig. C12

WITH OSCILLOSCOPE

(1) Adjustment condition and procedure are same as using vectorscope.
(2) Adjust VR311 and VR312 so that the waveform is minimized.

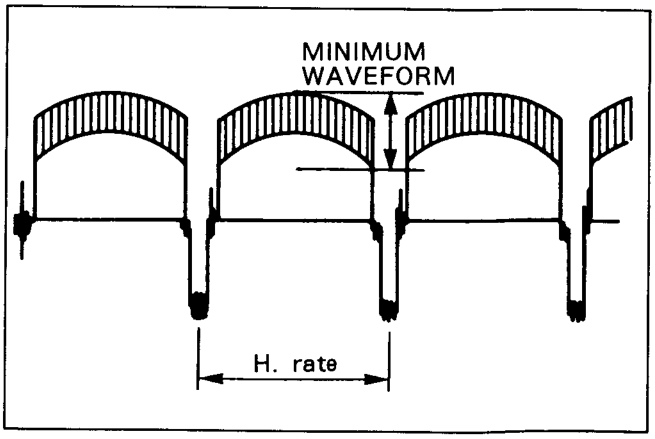


Fig. C13

12. OUTDOOR WHITE BALANCE ADJUSTMENT

TP	ADJ.	IRIS	CHART
VIDEO OUTPUT	VR528 VR529	CENTRE FIX	WHITE CHART

M. EQ.	SPEC.
VECTORSCOPE	CENTRE OF VECTORSCOPE
OSCILLOSCOPE	WAVEFORM IS MINIMIZED

Note:

VR528, VR529 : Process C.B.A.

WITH VECTORSCOPE

(1) Set the White Balance Switch on the Camera Operation Unit to the "OUTDOOR".
(2) Connect the jumper wire between TP519 and TP521.
(3) Aim the camera at the White Chart (lighting should be 3200 degrees K Halogen lamp).
(4) Supply the video signal to the vectorscope.
(5) Attach the colour temperature conversion filter (VFK0374 and VFK0375) which convert 3200 degrees Kelvin to 5600 degrees Kelvin in front of the lens (Refer to Note 1).
(6) If the colour temperature conversion filter is not available, use a day light source. (Refer to Note 2)
(7) Adjust the White Balance (B–Y) Outdoor Gain and White Balance (R–Y) Outdoor Gain Controls (VR528 and VR529) so that the colour vectors move to the centre of screen on the vectorscope. (Refer to Fig. C14–1)
(8) Remove the colour temperature conversion filter with the fixture from the lens.
(9) Remove the jumper wire from TP519, TP521.

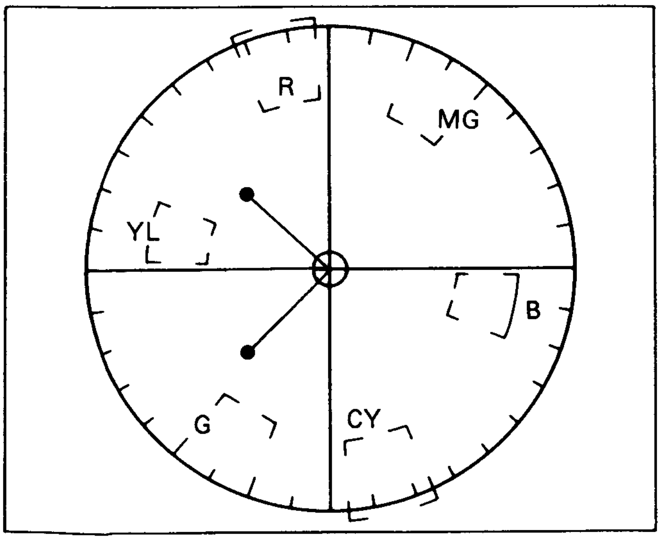


Fig. C14–1

WITH OSCILLOSCOPE

(1) Adjustment condition and procedure are same as using vectorscope.
(2) Adjust VR528 and VR529 so that the waveform is minimized.

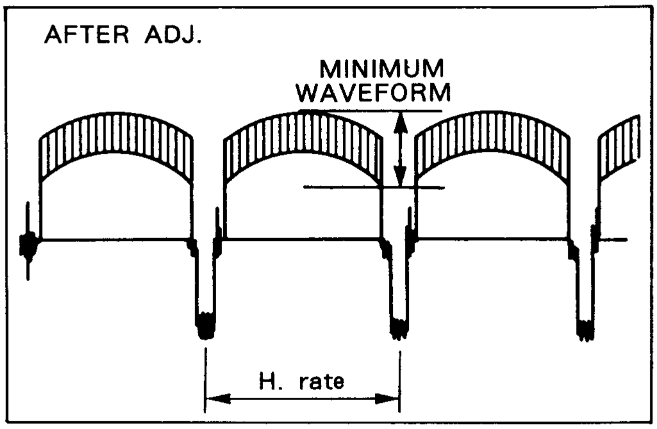


Fig. C14–2

Note 1:

Attach the fixture (make a fixture yourself) to the lens and then set the colour temperature conversion filter to fixture. Please make the fixture using the sheet attached to inside of cover page at the back of Service Manual.

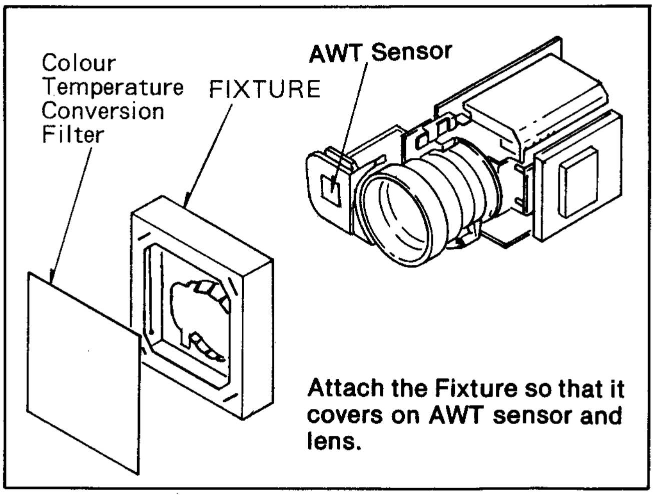

Colour Temperature Conversion Filter
FIXTURE
AWT Sensor
Attach the Fixture so that it covers on AWT sensor and lens.

Fig. C15–1

Note 2:

(1) Aim the camera at a sunny source (window, etc.).
(2) Incoming light must be from an outdoor source only, source and illumination on the sensor must be more than 500Lx, and colour temperature must be within 5000 degrees to 6000 degrees Kelvin. (Refer to Fig. C15–2)

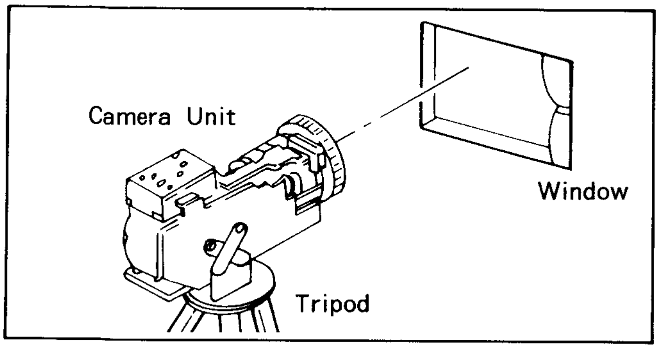


Fig. C15–2

13. BURST PHASE ADJUSTMENT

TP	ADJ.	IRIS	CHART
VIDEO OUT	VR329	FULLY CLOSE	☒
M. EQ.		SPEC.	
VECTOR SCOPE		135 degree ± 2 degree	

Note:

VR329 : Process C.B.A.

(1) Supply the video out signal to the vectorscope.
(2) Set the vector scope for "NTSC" mode.
(3) Adjust the VR329 so that burst phase become 135+–2degree.

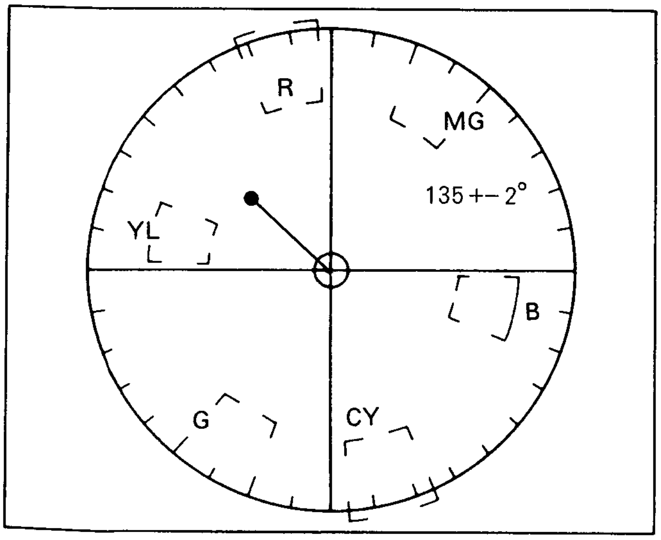


Fig. C16

14. COLOUR PHASE AND R-Y/B-Y GAIN ADJUSTMENT

TP	ADJ.	IRIS	CHART
VIDEO OUTPUT	VR310, VR307, VR314, VR313, VR328	CENTRE FIX	COLOUR CHIP CHART
M. EQ.	SPEC.		
VECTORSCOPE	Fig. C17		

Note:

VR310, VR307, VR314, VR313, VR328 : Process C.B.A.

(1) Aim the camera at a Colour Chip Chart.
(2) Set the vector scope to NTSC mode.
(3) Adjust the VR310 so that cracked Red vector comes one.
(4) Set the vector scope to PAL mode.
(5) Supply the video signal to the vectorscope.
(6) Adjust the Colour Phase Control (VR307 and VR314), the R–Y Gain Control (VR313) and the B–Y Gain Control (VR328) so that the vector of each colour is as shown in Fig. C17.

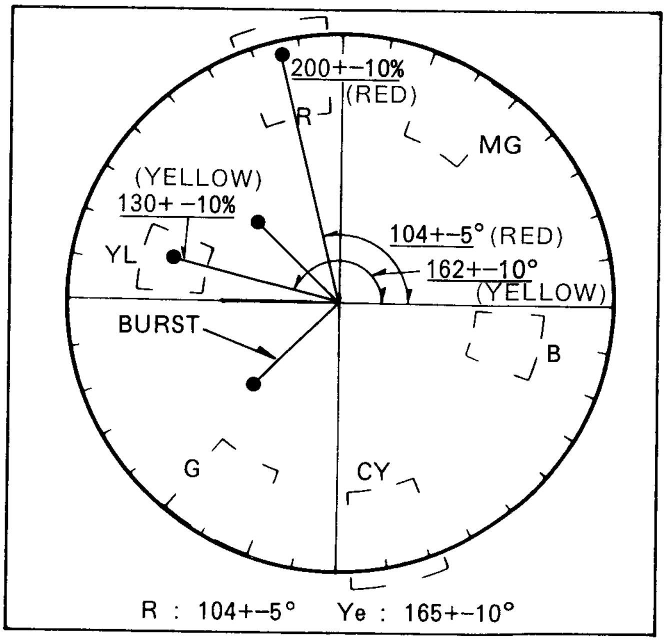


Fig. C17

15. HIGH INTENSITY SUPPRESS (HC) ADJUSTMENT

TP	ADJ.	IRIS	CHART
	VR309	CENTRE FIX	COLOUR CHART

M. EQ.	SPEC.
TV MONITOR	HALF SIZE (YELLOW) YELLOW COLOUR IS JUST BEFORE CUT OFF

Note:

VR309 : Process C.B.A.

(1) Aim the camera at the colour chart. (colour bar).
(2) Set the horizontal picture frame (H size) to 40usec, and memorize the level of yellow part.
(3) Set the horizontal picture frame to 16usec.
(4) In case that the level of yellow part is more than 50% compared with the yellow level of when horizontal picture frame is 40usec : Adjust the VR309 so that the level of yellow becomes 50% as shown in Fig. C18.
(5) In case that the level of yellow part is already less than 50% of when the horizontal picture frame is 40usec :
Adjust the VR309 until just before yellow part begins to disappear.

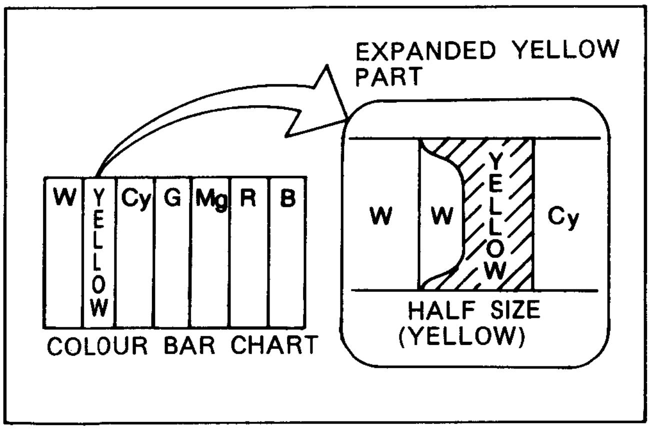


Fig. C18

16. AWT MODE (OFFSET) ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
VIDEO OUTPUT	VR525 VR526	NO	WHITE CHART

M. EQ.	SPEC.
VECTORSCOPE	CENTRE OF VECTORSCOPE
OSCILLOSCOPE	WAVEFORM IS MINIMIZED

Note:

VR525, VR526 : Process C.B.A.

WITH VECTORSCOPE

(1) Set the White balance selector for "AUTO" position.
(2) Aim the camera at the white chart.
(3) Supply the video signal to the vectorscope.
(4) Connect the jumper wire between TP519 and TP521.
(5) Set the diffusion plate on to surface of AWT sensor and taping around sensor with black tape so that any light is not entered to sensor from the gap between sensor and diffusion plate.
(6) Adjust the VR525 and VR526 so that the colour vectors move to centre of screen on vector scope. (Refer to Fig. C19)

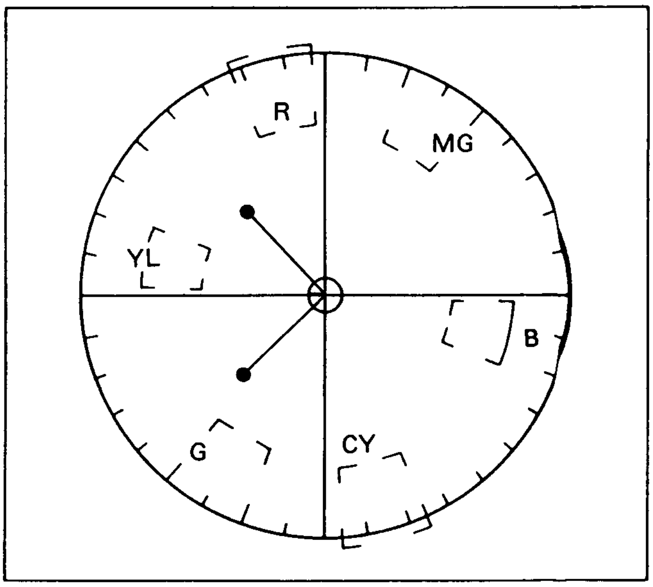


Fig. C19

WITH OSCILLOSCOPE

(1) Adjustment condition and procedure are same as using vectorscope.
(2) Adjust VR525 and VR526 so that the waveform is minimized.

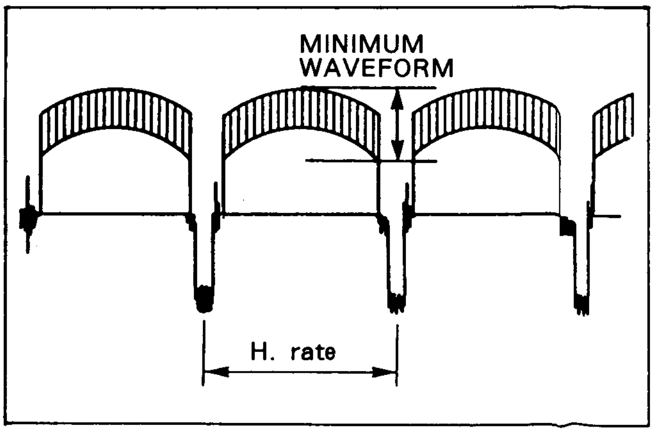


Fig. C20

17. AWT MODE (GAIN) ADJUSTMENT

TP	ADJ.	IRIS	CHART
VIDEO OUTPUT	VR523, VR527	CENTRE FIX	WHITE CHART

M. EQ.	SPEC.
VECTORSCOPE	CENTRE OF VECTORSCOPE
OSCILLOSCOPE	WAVEFORM IS MINIMIZED

Note:

VR523, VR527 : Process C.B.A.

WITH VECTORSCOPE

(1) Set the White balance selector for "AUTO" position.
(2) Aim the camera at the white chart, Lighting should be a 3200 degrees K Halogen lamp.
(3) Supply the video signal to the vectorscope.
(4) Connect the jumper wire between TP519 and TP521.
(5) Attach the diffusion plate (VKW1049) onto surface of AWT sensor and taping around the sensor with black tape so that any light is not entered to sensor from the gap between sensor and diffusion plate.
(6) Set the fixture (refer to Note 1 of item 12, outdoor white balance Adjustment) to the lens.
(7) Set the colour temperature conversion filter to the fixture as shown in Fig. C21. (VFK0547 to front of lens)

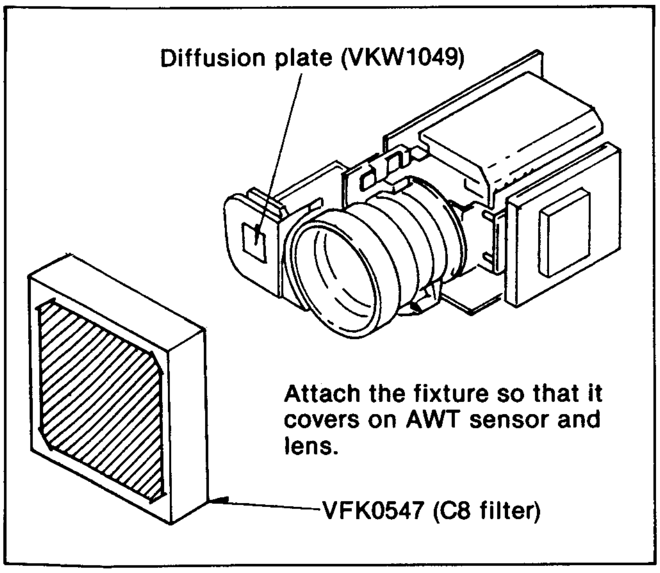

Diffusion plate (VKW1049)
Attach the fixture so that it covers on AWT sensor and lens.
VFK0547 (C8 filter)

Fig. C21

(8) Adjust the VR523 and VR527 so that colour vectors collect at centre.
(9) Next, remove the colour temperature conversion filter with fixture from the lens. If the colour vectors do not collect at centre, adjust the AWT offset adjustment controls (VR525, VR526) so that colour vectors come to centre.
(10) Repeat steps (6)–(9).

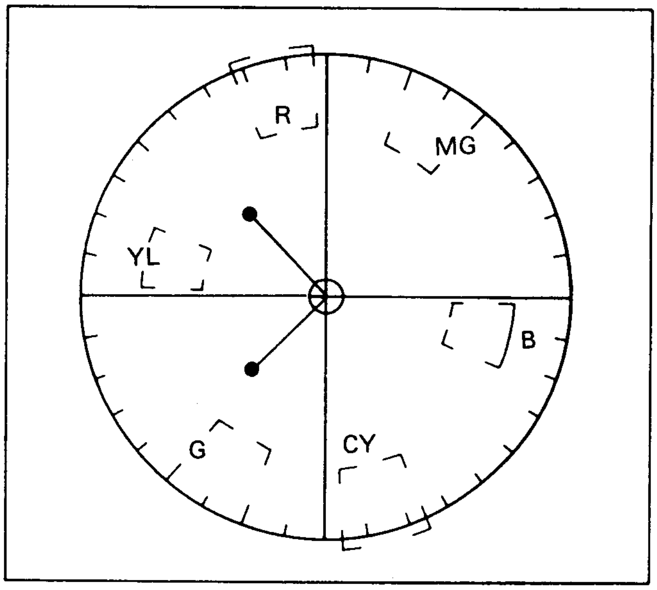


Fig. C22

WITH OSCILLOSCOPE

(1) Adjustment condition and procedure are same as using vectorscope.
(2) Adjust VR523, VR527, VR525 and VR526 that the waveform is minimized.

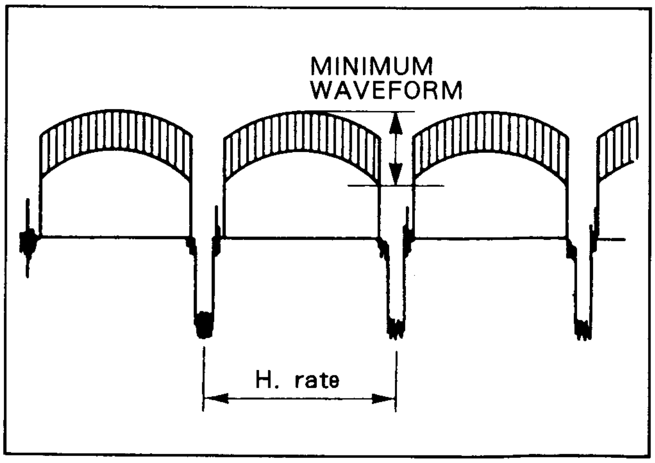


Fig. C23

18. PEDESTAL LEVEL ADJUSTMENT (FOR TELEPHOTO MODE)

TP	ADJ.	IRIS	CHART
TP514	VR331	CENTRE FIX POSITION	
M. EQ.		SPEC.	
OSCILLOSCOPE		SIGNAL LEVEL EQUALS THE BLANKING (BLANK) LEVEL	

TP514, VR331 : Process C.B.A.

1. Set the Telephoto buffon to "ON".
2. Connect the oscilloscope to TP514.
3. Adjust VR331 so that the signal level equals the blanking level as shown in Fig. C24.

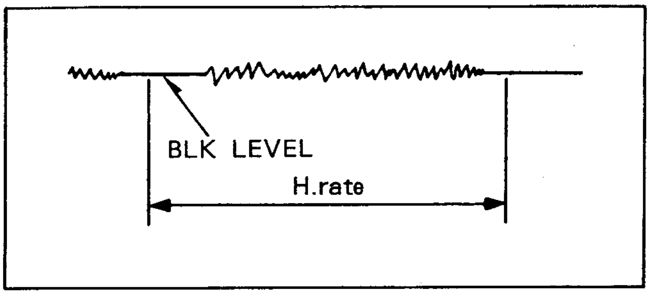


Fig. C24

19. YH LEVEL ADJUSTMENT (FOR TELEPHOTO MODE)

TP	ADJ.	IRIS	CHART
PIN 6 OF FP307	VR316	NO	GRAY SCALE CHART
M. EQ.	SPEC.		
OSCILLOSCOPE	B/A=2.33+−0.15		

Note:

VR315, FP306 : Process C.B.A.

(1) Set the Telephoto to "ON " position.
(2) Aim the camera at the gray scale chart.
(3) Connect the scope to PIN 6 OF FP307.
(4) Adjust the YH Level Control (VR315) so that the signal level "B/A " is 2.33+−0.15 as shown in Fig. C25.

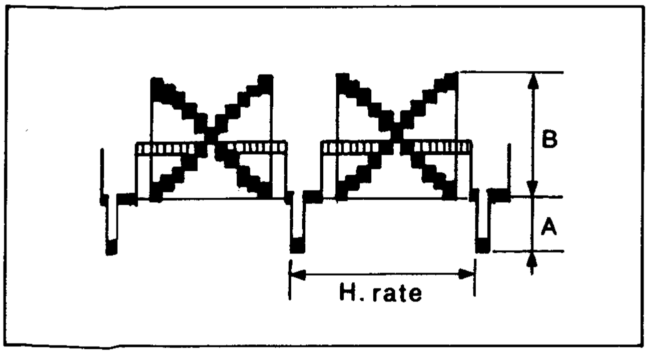


Fig. C25

20. BLACK LEVEL ADJUSTMENT (FOR TELEPHOTO MODE)

TP	ADJ.	IRIS	CHART
VIDEO OUTPUT	VR332 VR533	FULLY CLOSE	
M. EQ.	SPEC.		
VECTORSCOPE	CENTRE OF VECTORSCOPE		
OSCILLOSCOPE	WAVEFORM IS MINIMIZED		

Note:

VR332, VR533 : Process C.B.A.

(1) Set the White balance to "Auto" position.
(2) Set the Telephoto to "ON" position.
(3) Adjust the black pedestal controls (VR332, VR533) so that the colour vectors collect at the centre of screen on the vectorscope as shown in Fig. C26.

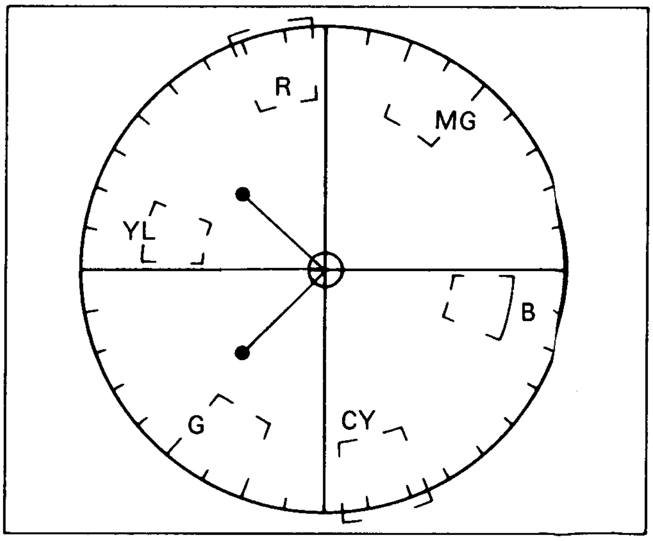


Fig. C26

WITH OSCILLOSCOPE

(1) Adjustment condition and procedure are same as using vectorscope.
(2) Adjust VR332, VR533 so that the waveform is minimized.

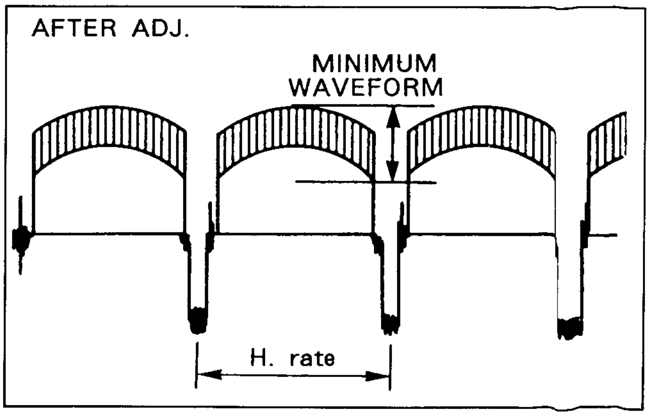


Fig. C27

21. HIGH INTENSITY SUPPRESS (HC) ADJUSTMENT

TP	ADJ.	IRIS	CHART
	VR317	CENTRE FIX	COLOUR CHART

M. EQ.	SPEC.
TV MONITOR	HALF SIZE (YELLOW) YELLOW COLOUR IS JUST BEFORE CUT OFF

Note:

VR309 : Process C.B.A.

(1) Aim the camera at the colour chart (colour bar).
(2) Set the horizontal picture frame (H size) to 40usec, and memorize the level of yellow part.
(3) Set the horizontal picture frame to 25usec.
(4) In case that the level of yellow part is more than 50% compared with the yellow level of when horizontal picture frame is 40 usec :
Adjust the VR317 so that the level of yellow becomes 50% as shown in Fig. C28.
(5) In case that the level of yellow part is already less than 50% of when the horizontal picture frame is 40usec :
Adjust the VR317 until just before yellow part begins to disappear.

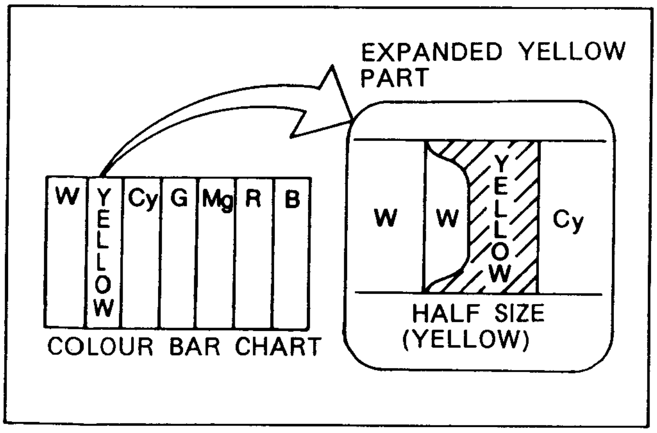


Fig. C28

(1) Set the White balanc to "Auto" position.
(2) Set the Telephote to "ON" position.

22. HALL AMX ADJUSTMENT

TP	ADJ.	IRIS	CHART
TP518, TP516 TP521, TP520	VR333, VR334	CENTRE FIX	GRAY SCALE CHART

M. EQ.	SPEC.
D.V.M.	----------------

Note:

TP516, TP518, TP520, TP521 : Process C.B.A.
VR333, VR334 : AF C.B.A.

(1) Connect a jumper wire between TP516 and TP521 to close Iris.
(2) Adjust the HALL AMP Control (VR333) so that the voltage level at TP518 is 1.74V+-0.02V.
(3) Disconnect the jumper wire between TP516 and TP521.
(4) Next, connect a jumper wire between TP516 and TP520 to open the Iris.
(5) Adjust the HALL AMP Control (VR334) so that the voltage Level of TP518 is 3.72V+-0.05V.
(6) Disconnect the jumper wire between TP516 and TP520.
(7) Next, confirm the voltage level at TP518 by connecting a jumper wire between TP516 and TP521.
(8) If the voltage level at TP518 is not 1.74V+-0.02V, repeat steps (1) - (6).

AUTO FOCUS SECTION

PREPARATION

The following adjustments are for the Auto Focus Unit.

(1) Camera zoom is positioned at the end of TELE side.

23. AF GATE ADJUSTMENT

TP	ADJ.	IRIS	CHART
TP702 TP703	C703	NO	

M. EQ.	SPEC.
OSCILLOSCOPE	T = 9.6 +- 0.4u-sec.

Note:

TP702, TP703, C703 : AF C.B.A.

(1) Set the AF Gate Control (C703) as shown in Fig. C29.

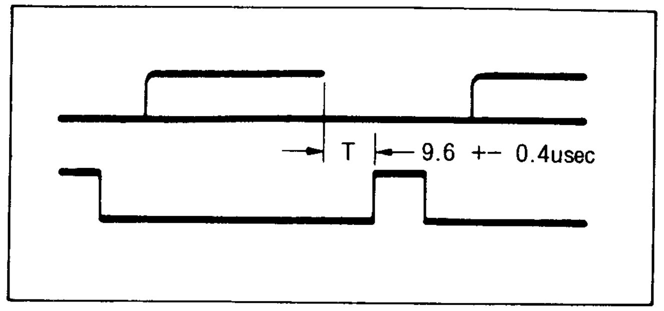


Fig. C29

24. BIMOLF GAIN CONTROL ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
TP704	VR703	YES	
M. EQ.	**SPEC.**		
OSCILLOSCOPE	A=11V+-0.5Vp-p		

Note:

TP704, VR703 : AF C.B.A.

(1) Set the Focus Switch to the MANUAL position.
(2) Cover the camera lens with the lens cap.
(3) Connect the scope to the TP704.
(4) Adjust the Bimolf Gain Control (VR703) so that the signal level (A) is 11V+-0.5Vp-p.

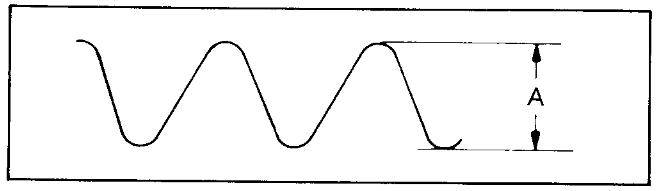


Fig. C30

25. AF VH FREQUENCY ADJUSTMENT

TP	ADJ.	IRIS CAP	CHART
TP705	C737	NO	WHITE/GRAY CHART
M. EQ.	**SPEC.**		
OSCILLOSCOPE	A = 2.80V +- 0.05V DC-RANGE		

Note:

TP705, TP710 : AF C.B.A.
TP516, TP520 : Process C.B.A.
ZOOM : TELE SIDE
Focus : AUTO

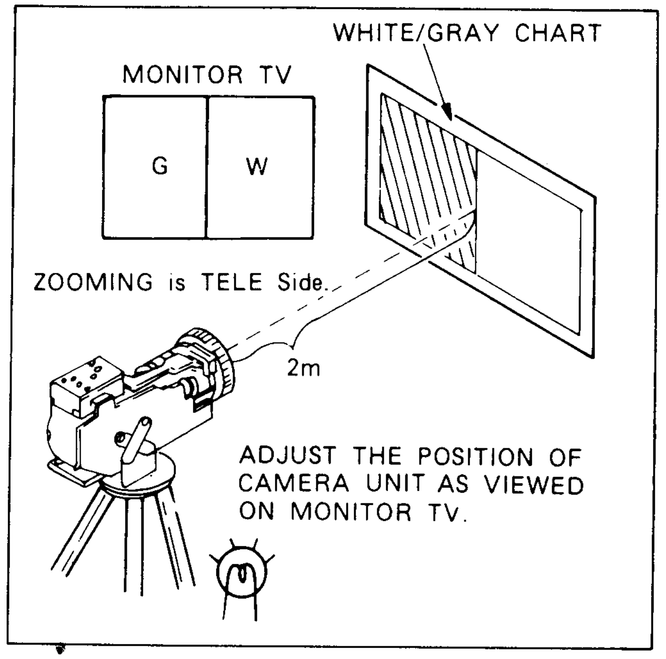

WHITE/GRAY CHART
MONITOR TV
G
W
ZOOMING is TELE Side.
2m
ADJUST THE POSITION OF CAMERA UNIT AS VIEWED ON MONITOR TV.

Fig. C30

(1) Connect a jumper between TP516 and TP520 to open the Iris.
(2) Aim the camera at the white/gray chart that was attached to previous service manual of Movie Camera.
(3) Set the lighting condition so that voltage at TP710 becomes 180mV+-10mVp-p as shown below.

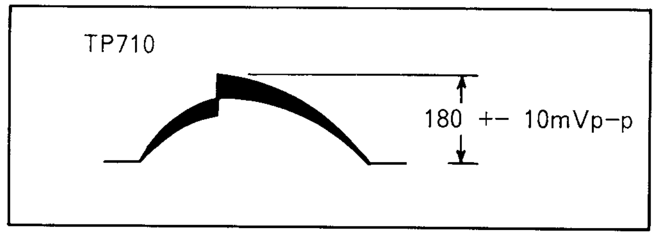

TP710
180 +- 10mVp-p

Fig. C31

(4) Adjust the VH frequency level control (C737) so that DC level at TP705 becomes 2.8V+-0.05V as shown below.

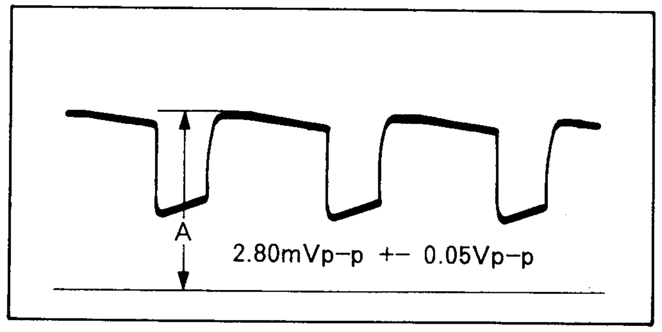
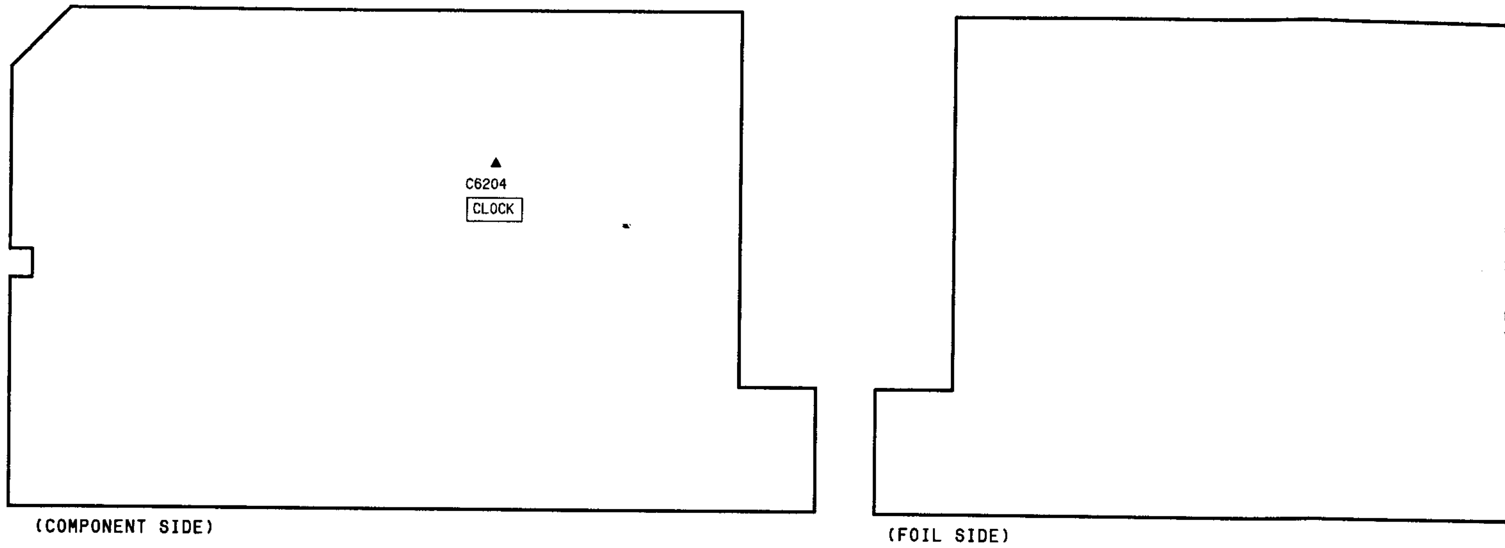

A
2.80mVp-p +- 0.05Vp-p

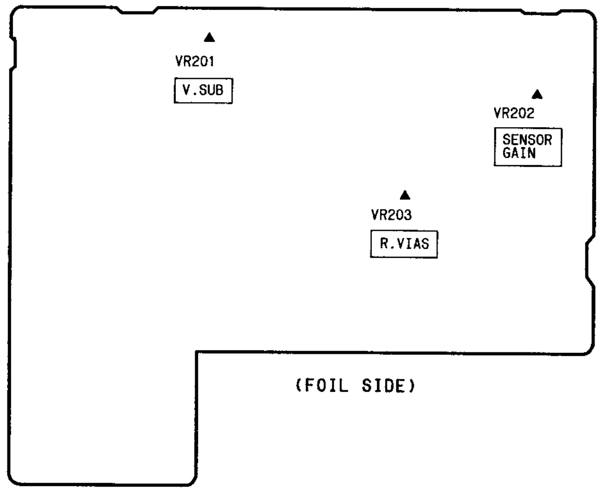
Fig. C32

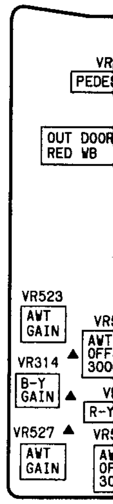
LOCATION OF TEST POINTS & CONTROLS (1)

LCD C.B.A.

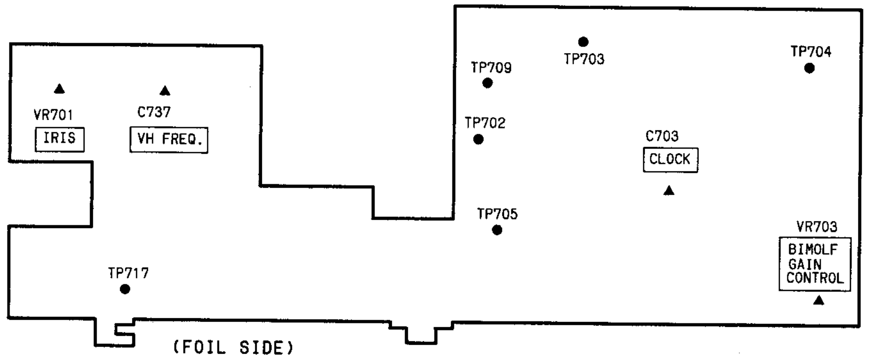

C6204
CLOCK
(COMPONENT SIDE)
(FOIL SIDE)

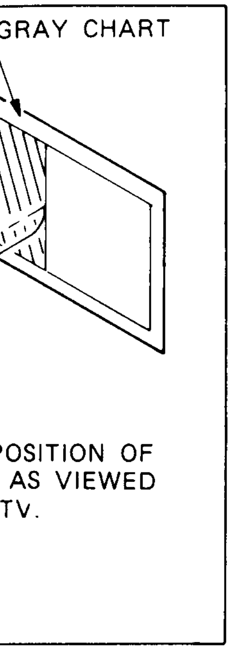
CCD DRIVE C.B.A.


VR201
V.SUB
VR202
SENSOR GAIN
VR203
R.VIAS
(FOIL SIDE)


VR
PEDE
OUT DOOR
RED WB
VR523
AWT GAIN
VR314
B-Y GAIN
VR527
AWT GAIN

AUTO FOCUS C.B.A.

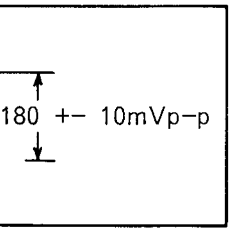

VR701
IRIS
C737
VH FREQ.
TP709
TP703
TP704
TP702
C703
CLOCK
TP705
VR703
BIMOLF GAIN CONTROL
TP717
(FOIL SIDE)


GRAY CHART
POSITION OF
AS VIEWED
TV.

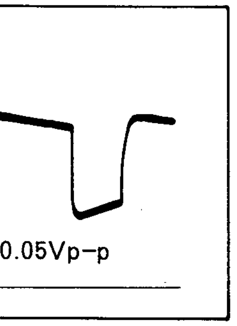
P516 and TP520 to

ite/gray chart that
service manual of

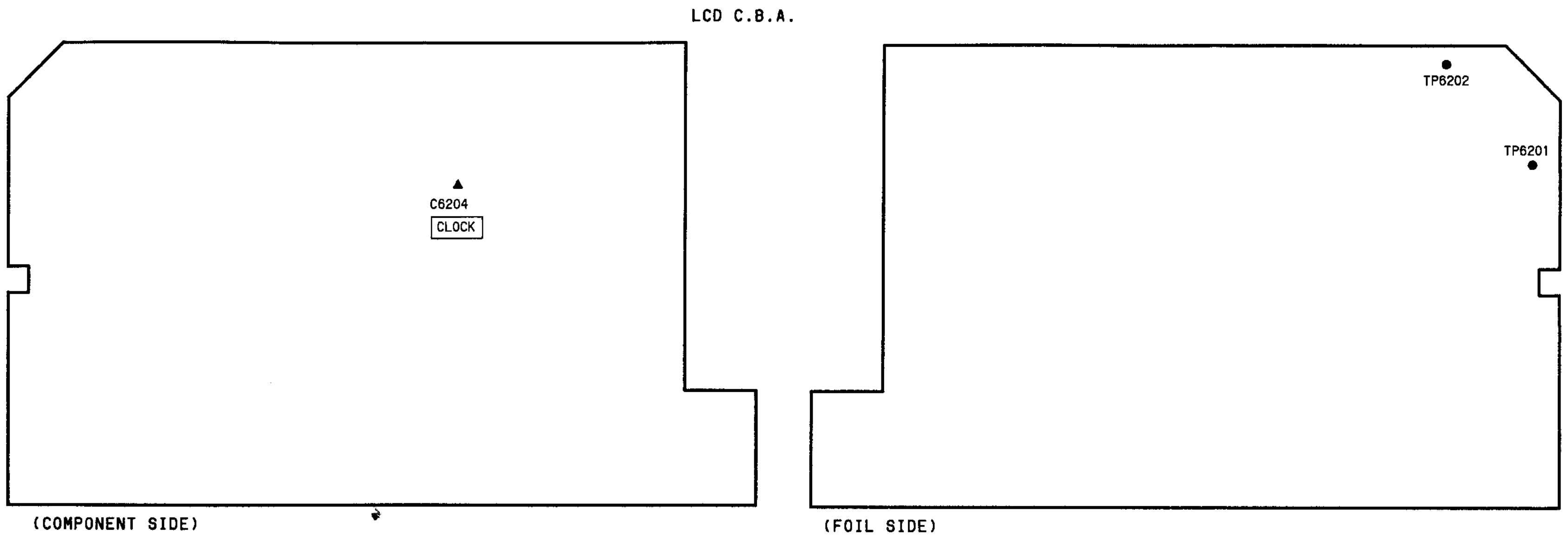
o that voltage at
Vp-p as shown below.

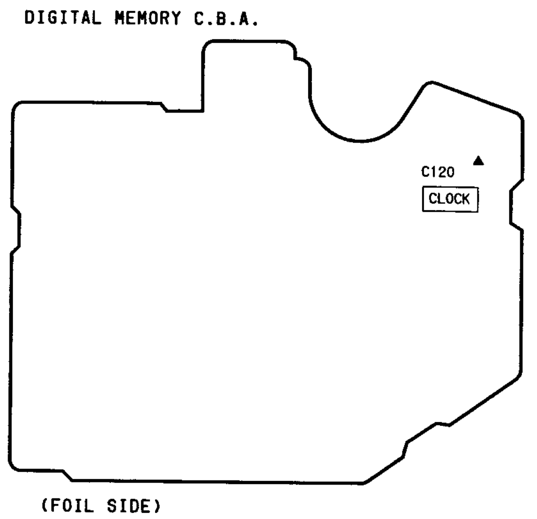


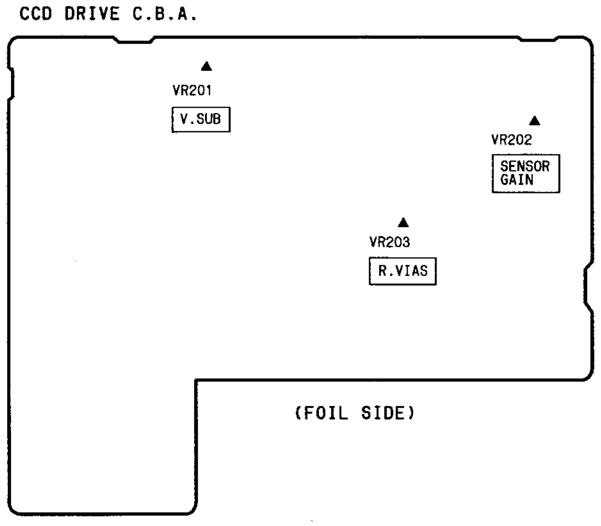
vel control (C737)
comes 2.8V+-0.05V

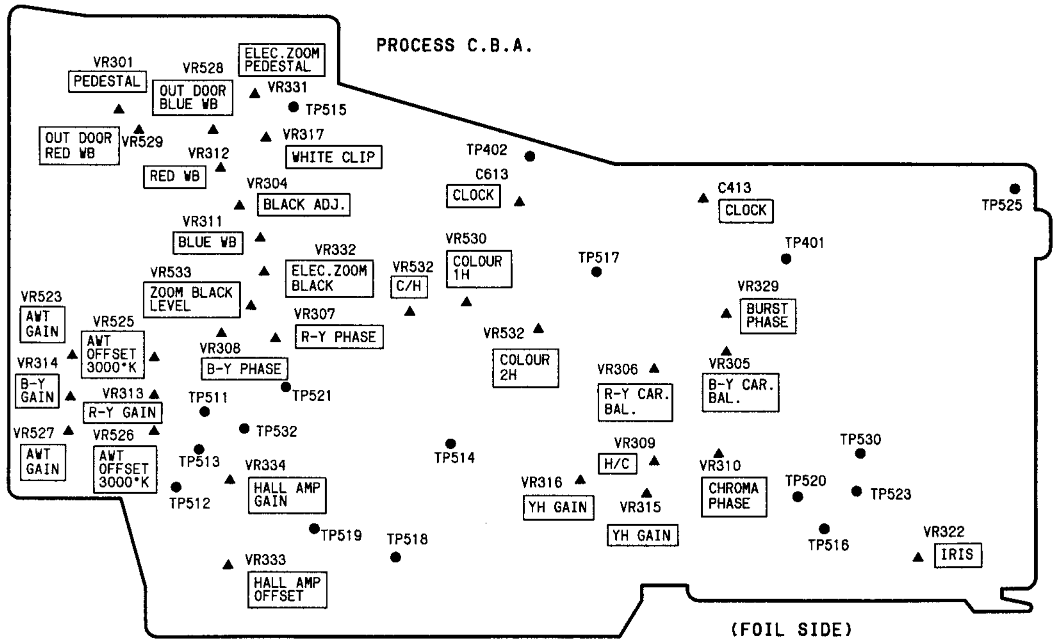


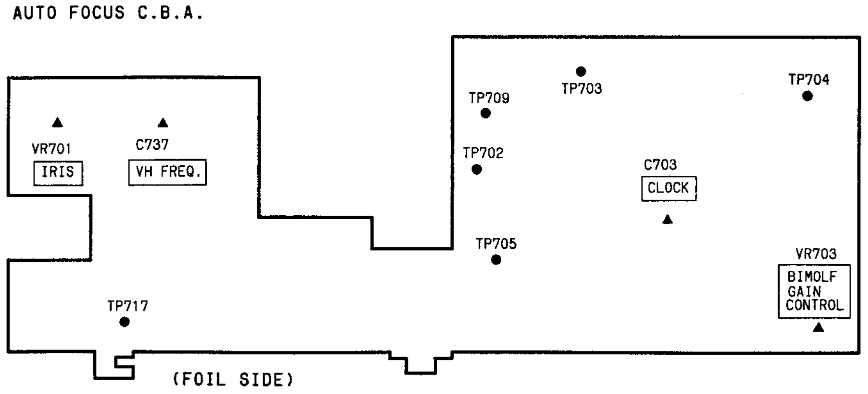
LOCATION OF TEST POINTS & CONTROLS (1)


LCD C.B.A.
C6204
CLOCK
(COMPONENT SIDE)
TP6202
TP6201
(FOIL SIDE)


DIGITAL MEMORY C.B.A.
C120
CLOCK
(FOIL SIDE)

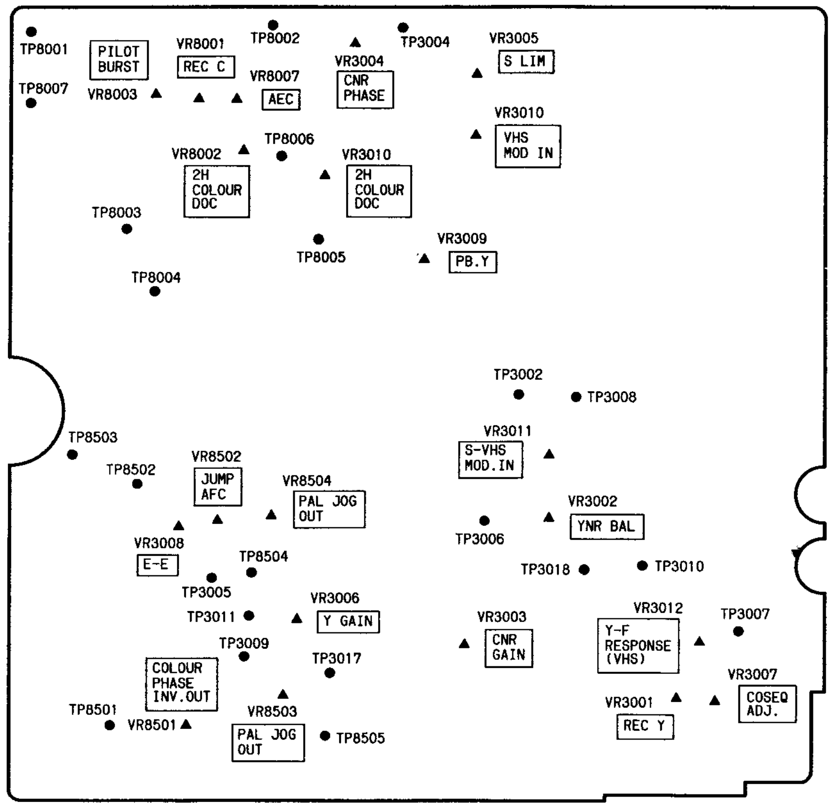

CCD DRIVE C.B.A.
VR201
V.SUB
VR202
SENSOR GAIN
VR203
R.VIAS
(FOIL SIDE)


PROCESS C.B.A.
VR301
PEDESTAL
VR528
OUT DOOR BLUE WB
ELEC.ZOOM PEDESTAL
VR331
TP515
OUT DOOR RED WB
VR529
VR312
RED WB
VR317
WHITE CLIP
VR304
BLACK ADJ.
VR311
BLUE WB
VR533
ZOOM BLACK LEVEL
VR332
ELEC.ZOOM BLACK
VR532
C/H
VR530
COLOUR 1H
TP402
C613
CLOCK
C413
CLOCK
TP525
TP401
TP517
VR329
BURST PHASE
VR523
AWT GAIN
VR525
AWT OFFSET 3000°K
VR307
R-Y PHASE
VR532
COLOUR 2H
VR314
B-Y GAIN
VR308
B-Y PHASE
VR313
R-Y GAIN
TP511
TP521
VR306
R-Y CAR. BAL.
VR305
B-Y CAR. BAL.
VR527
AWT GAIN
VR526
AWT OFFSET 3000°K
TP532
TP513
TP512
VR334
HALL AMP GAIN
TP514
VR309
H/C
VR316
YH GAIN
VR315
YH GAIN
VR310
CHROMA PHASE
TP530
TP520
TP523
TP516
VR322
IRIS
TP519
TP518
VR333
HALL AMP OFFSET
(FOIL SIDE)


AUTO FOCUS C.B.A.
VR701
IRIS
C737
VH FREQ.
TP709
TP703
TP704
TP702
C703
CLOCK
TP705
VR703
BIMOLF GAIN CONTROL
TP717
(FOIL SIDE)

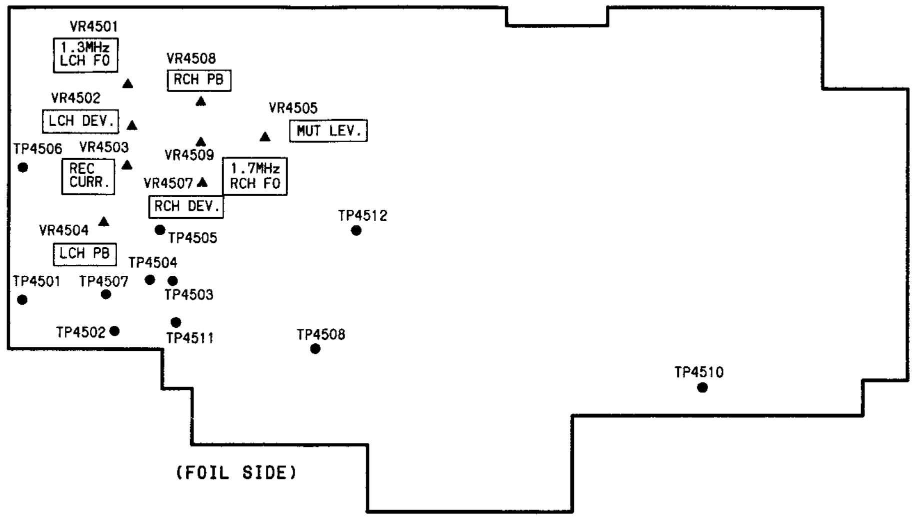
LOCATION OF TEST POINTS & CONTROLS (2)

LUMINANCE & CHROMINANCE PACK C.B.A.


TP8001
PILOT BURST
VR8001
REC C
TP8002
VR8007
AEC
VR3004
CNR PHASE
TP3004
VR3005
S LIM
TP8007
VR8003
VR3010
VHS MOD IN
VR8002
2H COLOUR DOC
TP8006
VR3010
2H COLOUR DOC
TP8003
TP8005
VR3009
PB.Y
TP8004
TP3002
TP3008
VR3011
S-VHS MOD.IN
TP8503
TP8502
VR8502
JUMP AFC
VR8504
PAL JOG OUT
VR3002
YNR BAL
TP3006
VR3008
E-E
TP8504
TP3018
TP3010
TP3005
VR3006
TP3011
Y GAIN
VR3003
CNR GAIN
VR3012
Y-F RESPONSE (VHS)
TP3007
TP3009
TP3017
COLOUR PHASE INV.OUT
VR3007
COSEQ ADJ.
VR3001
REC Y
TP8501
VR8501
VR8503
PAL JOG OUT
TP8505

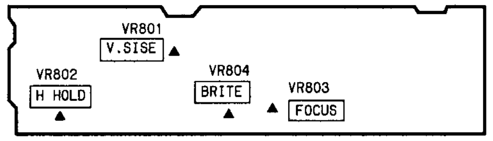
(FOIL SIDE)

Hi-Fi AUDIO C.B.A.


VR4501
1.3MHz LCH FO
VR4508
RCH PB
VR4502
LCH DEV.
VR4505
MUT LEV.
TP4506
VR4503
REC CURR.
VR4509
VR4507
1.7MHz RCH FO
RCH DEV.
TP4512
VR4504
TP4505
LCH PB
TP4504
TP4501
TP4507
TP4503
TP4502
TP4511
TP4508
TP4510

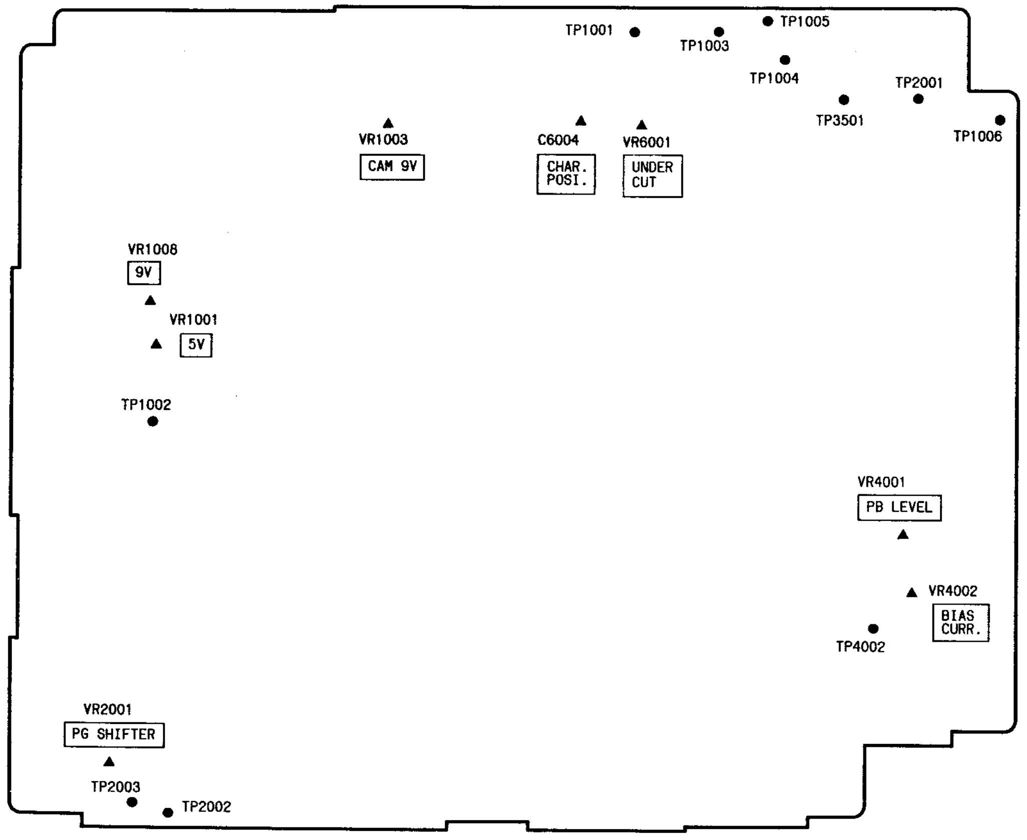
(FOIL SIDE)

E.V.F. C.B.A.


VR801
V.SISE
VR802
H HOLD
VR804
BRITE
VR803
FOCUS

(FOIL SIDE)

MAIN C.B.A.


TP1001
TP1003
TP1005
TP1004
TP2001
TP3501
TP1006
VR1003
CAM 9V
C6004
CHAR. POSI.
VR6001
UNDER CUT
VR1008
9V
VR1001
5V
TP1002
VR4001
PB LEVEL
VR4002
BIAS CURR.
TP4002
VR2001
PG SHIFTER
TP2003
TP2002

(FOIL SIDE)

2-4-2. ELECTRICAL ADJUSTMENT FOR E.V.F. SECTION

PREPARATION

The following adjustments are for Electronic Viewfinder.

(1) Connect the Viewfinder plug to the E.V.F. connector on the unit.
(2) The camera circuit must be completely aligned before viewfinder adjustments are made.

1. H-OSC ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
Pin 1 of P801	VR802	NO	BALL CHART
M. EQ.		SPEC.	
FREQUENCY COUNTER		15.9KHz +− 0.1KHz	

Note:

(1) Connect the frequency counter to Pin1 of P801.
(2) Adjust the H-OSC (VR802) so that the frequency is 15.9+−0.1KHz.

2. CENTERING ADJUSTMENT

(1) Aim the camera at the registration chart.
(2) Adjust the Deflection Yoke Centering Magnets by turning them so that the picture on monitor TV is centered.

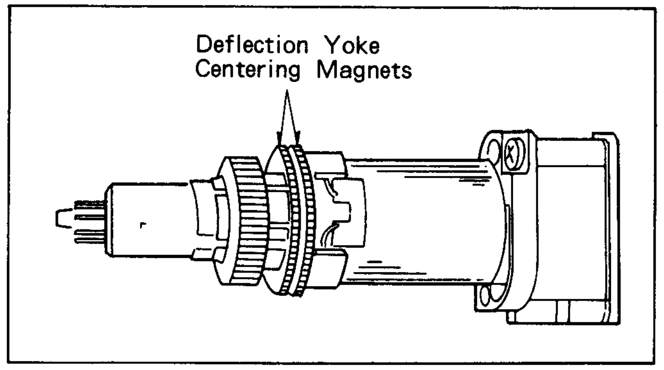

Deflection Yoke
Centering Magnets

Fig. C33

3. FOCUS ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
	VR803	NO	BALL CHART
M. EQ.		SPEC.	
VIEWFINDER		BEST RESOLUTION	

Note:

VR803 : E.V.F

(1) Aim the came
(2) Adjust the resolution in

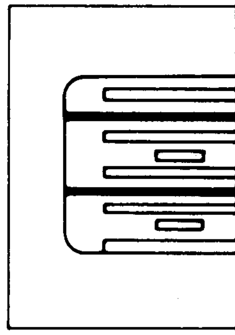
4. V. SIZE ADJUS

TP	ADJ.
	VR801
M. EQ.	
VIEWFINDER	

Note:

VR801 : E.V.F

(1) Aim the came
(2) Adjust the Vertical Size not roll as sh



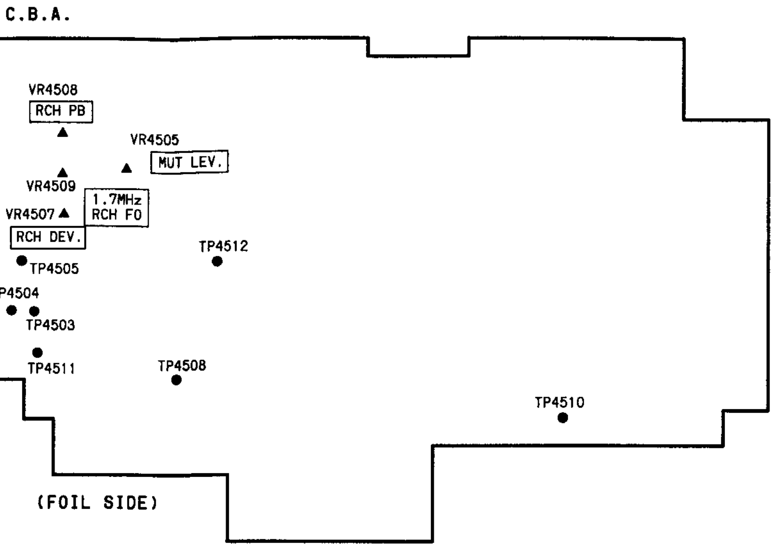
5. BRIGHTNESS

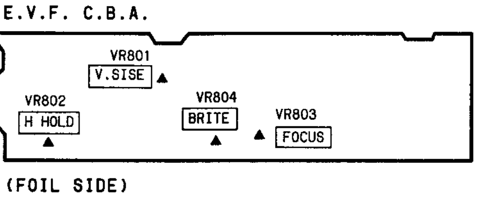
TP	ADJ.
	VR804
M. EQ.	
VIEWFINDER	

Note:

VR804 : E.V.F

(1) Aim the came
(2) Adjust the br the black an are the same screen.





2-4-2. ELECTRICAL ADJUSTMENT FOR E.V.F. SECTION

PREPARATION

The following adjustments are for Electronic Viewfinder.

(1) Connect the Viewfinder plug to the E.V.F. connector on the unit.
(2) The camera circuit must be completely aligned before viewfinder adjustments are made.

1. H-OSC ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
Pin 1 of P801	VR802	NO	BALL CHART
M. EQ.		**SPEC.**	
FREQUENCY COUNTER		15.9KHz +- 0.1KHz	

Note:

(1) Connect the frequency counter to Pin1 of P801.
(2) Adjust the H-OSC (VR802) so that the frequency is 15.9+-0.1KHz.

2. CENTERING ADJUSTMENT

(1) Aim the camera at the registration chart.
(2) Adjust the Deflection Yoke Centering Magnets by turning them so that the picture on monitor TV is centered.

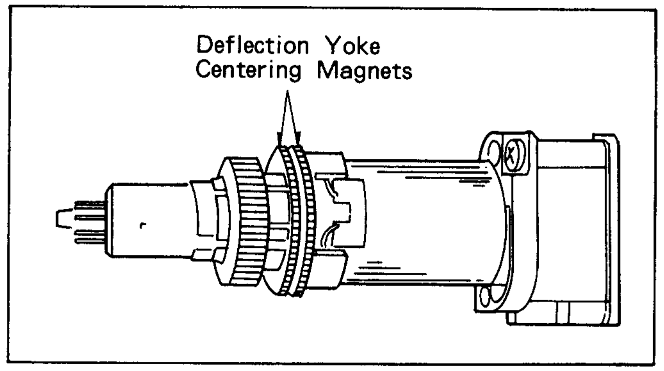


Fig. C33

3. FOCUS ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
	VR803	NO	BALL CHART
M. EQ.		**SPEC.**	
VIEWFINDER		BEST RESOLUTION	

Note:

VR803 : E.V.F. C.B.A.

(1) Aim the camera at the Ball chart.
(2) Adjust the focus control (VR803) for best resolution in the viewfinder.

4. V. SIZE ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
	VR801	NO	GRAY SCALE CHART
M. EQ.		**SPEC.**	
VIEWFINDER		VERTICAL SIZE IS FIXED.	

Note:

VR801 : E.V.F. C.B.A.

(1) Aim the camera at the gray scale chart.
(2) Adjust the Vertical Size (VR801) so the Vertical Size is correct and the picture does not roll as shown in Fig. C34.

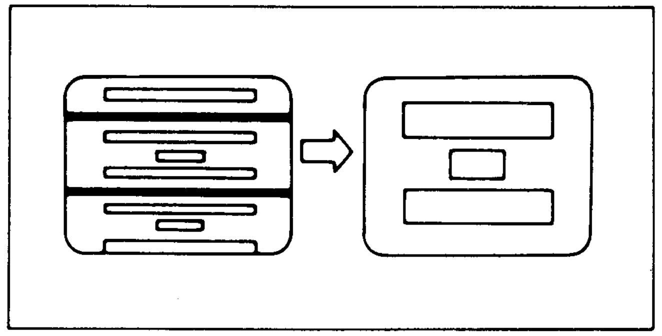


Fig. C34

5. BRIGHTNESS ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
	VR804	NO	GRAY SCALE CHART
M. EQ.		**SPEC.**	
VIEWFINDER		NATURAL GRADATION	

Note:

VR804 : E.V.F. C.B.A.

(1) Aim the camera at gray scale chart.
(2) Adjust the brightness control (VR804) so that the black and white bars in the EVF screen are the same as they are in the monitor TV screen.

2-4-3. ELECTRICAL ADJUSTMENT FOR VTR SECTION

TEST EQUIPMENT AND TOOLS

The following equipment is required for adjustment of the VTR section of S-VHS-C Movie.

1. VTVM (Vacuum Tube Volt Meter)
   DVM (Digital Volt Meter)
   Voltage Range : 0.01~50V
2. Dual Trace Oscilloscope
   Voltage Range : 0.06~50V/div
   Frequency Range : 0~50MHz
   Probe : 10:1 or 1:1
3. Frequency counter
   Frequency Range : 0~10MHz
4. Signal Generator (Sinewave)
   Frequency Range : 0~10MHz
5. Video Sweep Generator
   Frequency Range : 0~10MHz
6. Colour Monitor TV
7. Plastic Tip Driver
8. VHS-C Alignment Tape (VFM8180H8PF)
9. S-VHS-C Blank Tape
10. VHS-C Blank Tape
11. Pattern Generator

PREPARATION

1. Remove the casing panels.
   (Refer to the disassemble method)
2. Connect the Y/C separator (VFK0304) to the extension cable (VFK0614) with Y/C separator connection cable (VFK0640) and connect this extension cable (VFK0614) to connector P1002 on Main C.B.A.
3. Supply the video signal to the video circuit by using the Y/C separator (VFK0304) as shown in Fig. E1.
4. Supply the audio signal to audio circuit through the External Microphone Socket.

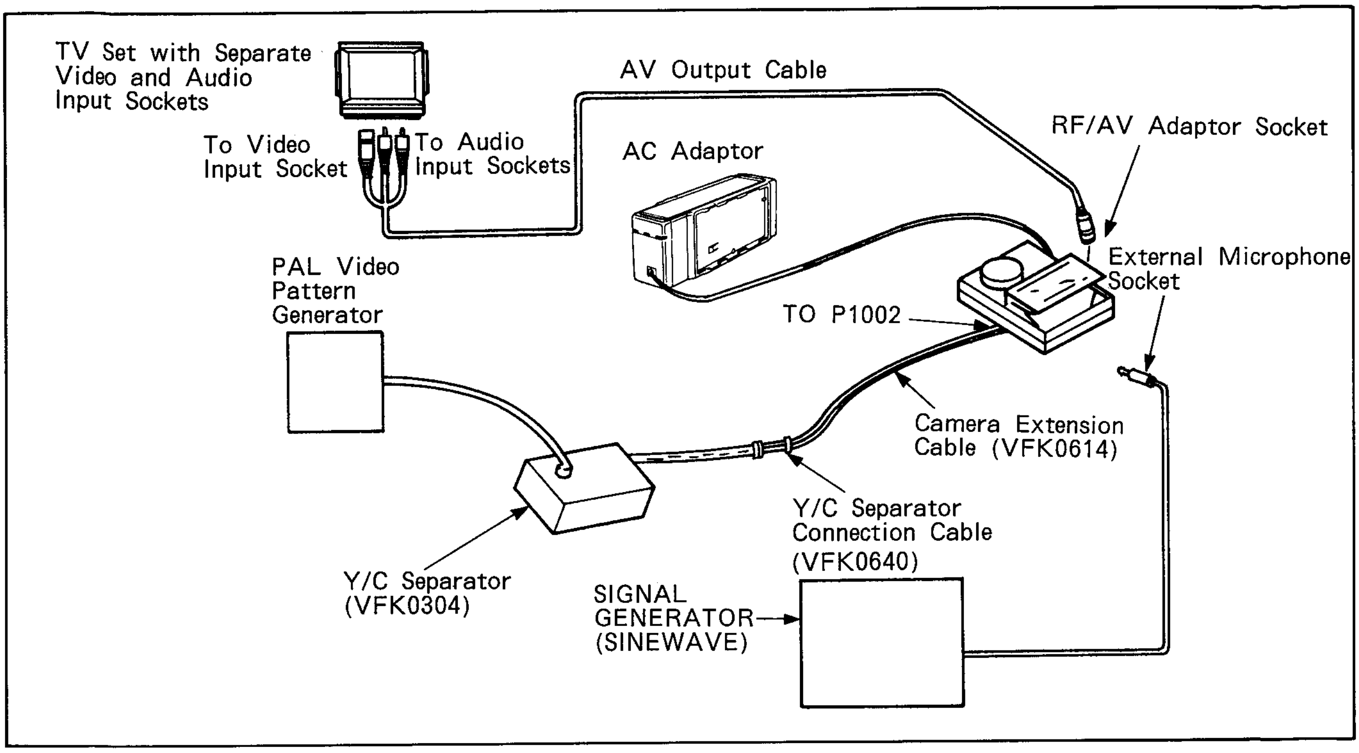
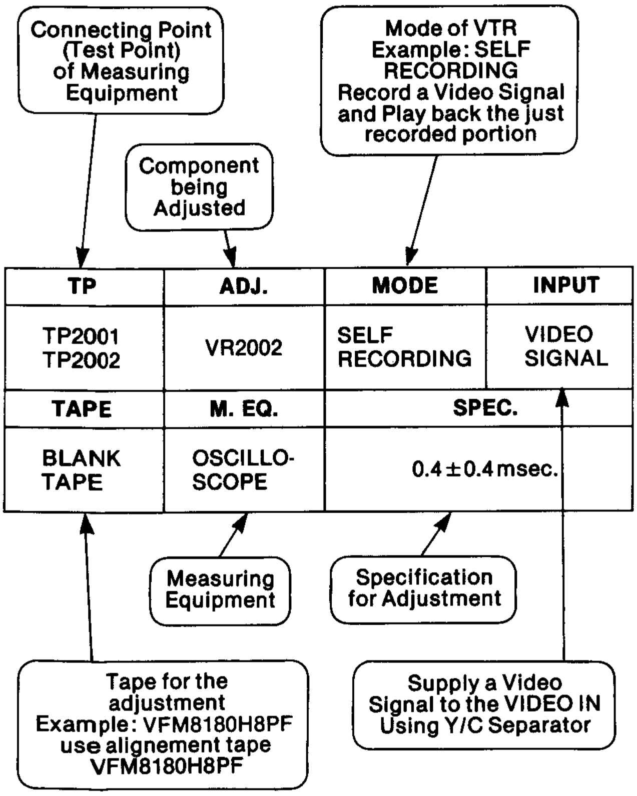

TV Set with Separate Video and Audio Input Sockets
To Video Input Socket
To Audio Input Sockets
AV Output Cable
AC Adaptor
RF/AV Adaptor Socket
External Microphone Socket
PAL Video Pattern Generator
TO P1002
Camera Extension Cable (VFK0614)
Y/C Separator Connection Cable (VFK0640)
Y/C Separator (VFK0304)
SIGNAL GENERATOR (SINEWAVE)

Fig. E1

HOW TO READ THE ADJUSTMENT PROCEDURES


Connecting Point (Test Point) of Measuring Equipment
Mode of VTR Example: SELF RECORDING Record a Video Signal and Play back the just recorded portion
Component being Adjusted
Measuring Equipment
Specification for Adjustment
Tape for the adjustment Example: VFM8180H8PF use alignement tape VFM8180H8PF
Supply a Video Signal to the VIDEO IN Using Y/C Separator

TP	ADJ.	MODE	INPUT
TP2001 TP2002	VR2002	SELF RECORDING	VIDEO SIGNAL
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	OSCILLO-SCOPE	0.4±0.4msec.	

Note: If ☒ appears in any block, this means it is not used or not important.

Note:

Before the electrical adjustment, set the Unit as following conditions except for especial instructions in each adjustment item.

1. Tape Speed Selector ... SP position.
2. Tracking Control ... Centre FIX position.
3. S–VHS System Selector ... Auto position.

POWER SECTION

1. REG. 5V ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP3204(HOT) TP3205(GND)	VR1001	CAMERA REC PLAY	☒
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	D.V.M.	4.91+–0.025V	

2. REG. 9V ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP1002(HOT) TP3205(GND)	VR1002	CAMERA REC PLAY	☒
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	D.V.M.	8.2+–0.05V	

3. CAMERA REG. 9V ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP1003(HOT) TP3205(GND)	VR1003	CAMERA REC PLAY	
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	D.V.M.	$8.6^{+0.07V}_{-0.03V}$	

SERVO SECTION

4. PG SHIFTER ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP2001 VIDEO OUT	VR2001	PLAY	
TAPE	**M. EQ.**	**SPEC.**	
ALIGNMENT TAPE (VFM8180H8PF)	OSCILLO-SCOPE	6.5H+−1H¡H	

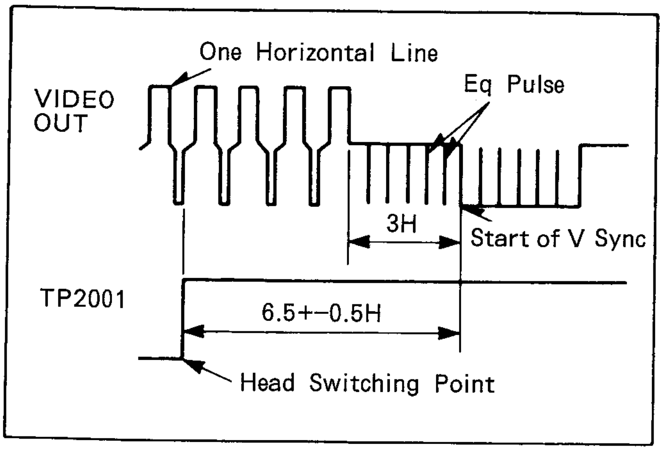


Fig.E2

LUMINANCE & CHROMINANCE SECTION

5. S-VHS LIMITING BALANCE ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP3004	VR3005	S−VHS REC PLAY	
TAPE	**M. EQ.**	**SPEC.**	
S−VHS BLANK TAPE	D.V.M.	3.2+−0.1V	

6. VCO FREE RUN FREQUENCY ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP8004	VR8007	S−VHS STOP	
TAPE	**M. EQ.**	**SPEC.**	
S−VHS BLANK TAPE	FREQ COUNTER	623+−15KHz	

1. Set the mode select to S−VHS mode.
2. Connect the jumper wire among TP8001, TP8002 and TP8003.
3. Adjust VR8007 so the reading of frequency counter is 623+−15KHz.

7. S-VHS INPUT LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP3002	VR3011	S−VHS STOP	COLOUR BAR
TAPE	**M. EQ.**	**SPEC.**	
S−VHS BLANK TAPE	OSCILLO-SCOPE	0.75+−0.03Vp−p	

1. Set the mode select to S−VHS mode.
2. Connect the oscilloscope to TP3002 (or IC3001−7).
3. Adjust VR3011 so that the Y level becomes 0.75+−0.03Vp−p.

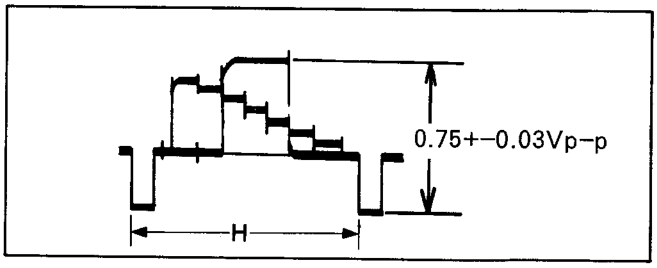


Fig.E3

8. VHS INPUT LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP3002	VR3010	STOP	COLOUR BAR
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	OSCILLO-SCOPE	0.75+−0.03Vp−p	

1. Set the mode select to VHS mode.
2. Connect the oscilloscop to TP3002 (or IC3001-7).
3. Adjust VR3010 so that the Y level becomes 0.75+-0.03Vp-p.

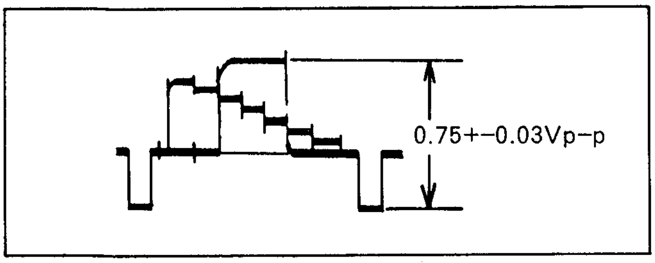


Fig.E4

9. E-E LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
VIDEO OUT	VR3008	STOP	COLOUR BAR
TAPE	**M. EQ.**	**SPEC.**	
	OSCILLO-SCOPE	1.0+-0.05Vp-p	

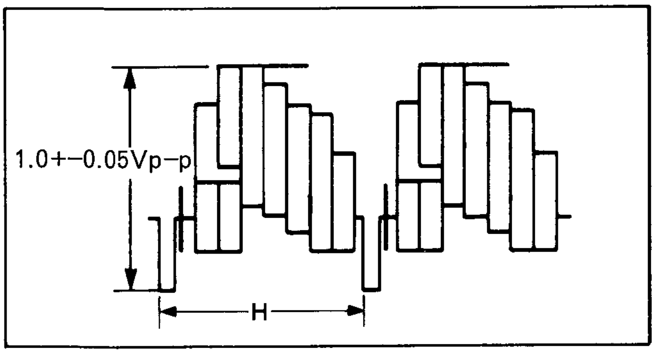


Fig.E5

10. S-VHS RECORDING CURRENT ADJUSTMENT

10-1. S-VHS REC CHROMA LEVEL (1) ADJUSTMENT

TP	ADJ.	MODE	INPUT
P5003-2(HOT) P5003-1(GND)	VR8001	S-VHS REC/PLAY (LP)	COLOUR BAR
TAPE	**M. EQ.**	**SPEC.**	
S-VHS BLANK TAPE	OSCILLO-SCOPE	20+-2mVp-p	

1. Set the unit to S-VHS mode and REC. PLAY with LP mode.
2. Connect the Oscilloscope to P5003-2 (HOT) and P5003-1 (GND).
3. Remove Luminance signal by turning VR3001.
4. Adjust VR8001 so that Chroma level become 20+-2mVp-p.

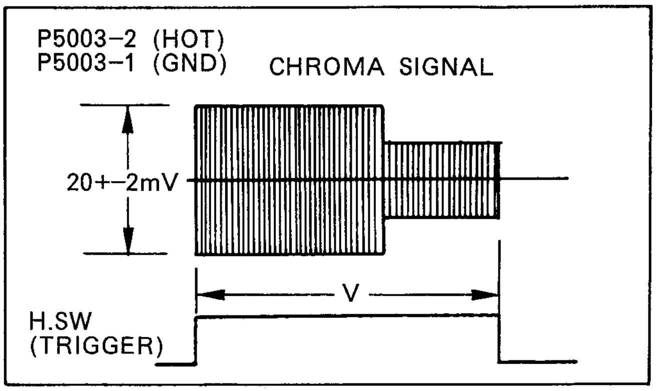

P5003-2 (HOT)
P5003-1 (GND)
CHROMA SIGNAL
20+-2mV
V
H.SW
(TRIGGER)

Fig.E6

10-2. S-VHS REC LUMINANCE LEVEL (1) ADJUSTMENT

TP	ADJ.	MODE	INPUT
P5003-2(HOT) P5003-1(GND)	VR3001	S-VHS REC/PLAY (LP)	COLOUR BAR
TAPE	**M. EQ.**	**SPEC.**	
S-VHS BLANK TAPE	OSCILLO-SCOPE	90mV+-5mVp-p	

1. Set the Unit to S-VHS mode and REC. PLAY with LP mode.
2. Adjust VR3001 to 90mV+-5mVp-p.

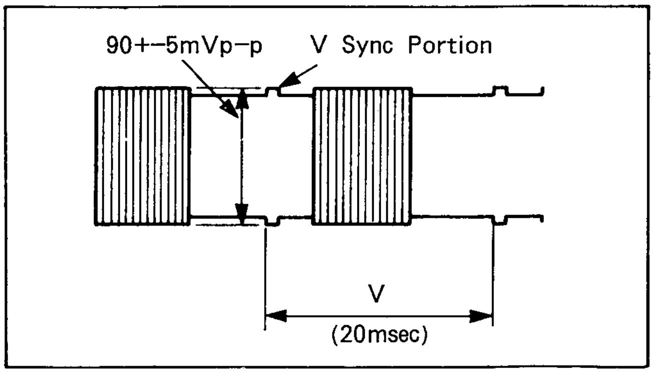

90+-5mVp-p
V Sync Portion
V
(20msec)

Fig.E7

10-3. S-VHS REC CHROMA LEVEL (2) ADJUSTMENT

TP	ADJ.	MODE	INPUT
P5003-2(HOT) P5003-1(GND)	VR8001	S-VHS REC/PLAY (SP)	BLACK SIG FROM CAMERA BY LENS CAP
TAPE	**M. EQ.**	**SPEC.**	
S-VHS BLANK TAPE	OSCILLO-SCOPE	10+-2mVp-p	

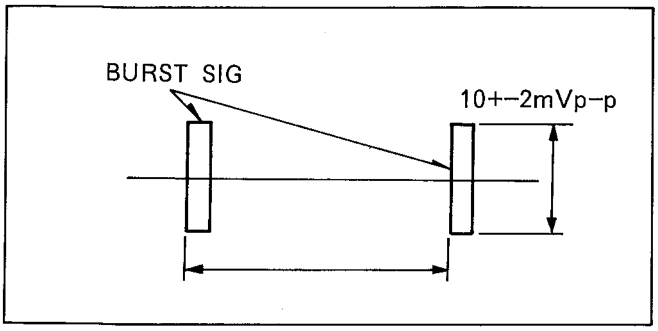


Fig.E8

1. Set the lens cap on camera unit and supply the video (Black) signal from the camera unit.
2. Set the unit to S-VHS mode and REC. PLAY with SP mode.
3. Adjust VR8001 to 10+-2mVp-p.

10-4. S-VHS REC LUMINANCE LEVEL (2) ADJUSTMENT

TP	ADJ.	MODE	INPUT
P5003-2(HOT) P5003-1(GND)	VR3001	S-VHS REC/PLAY (SP)	BLACK SIG FROM CAMERA BY LENS CAP
TAPE	**M. EQ.**	**SPEC.**	
S-VHS BLANK TAPE	OSCILLO-SCOPE	88+-5mVp-p	

1. Set the lens cap on camera unit and supply the Video (Black) signal from the camera unit.
2. Set the unit to S-VHS mode and REC. PLAY with SP mode.
3. Adjust VR3001 to 88+-5mVp-p.

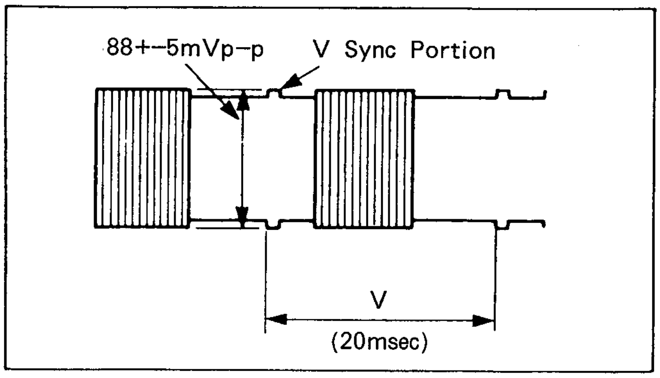


Fig.E9

11. S-VHS LUMINANCE NOISE RECORDING ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP3018	VR3006	S-VHS SELF RECORDING	COLOUR BAR
TAPE	**M. EQ.**	**SPEC.**	
S-VHS BLANK TAPE	OSCILLO-SCOPE	800+-20mVp-p	

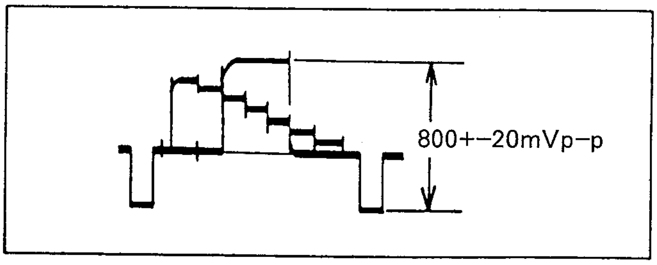


Fig.E10

1. Set the mode select to S-VHS mode.
2. Adjust VR3006 so that the noise is minimized as possible.

12. S-VHS LUMINANCE NOISE REDUCTION BALANCE ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP3009	VR3002	S-VHS SELF RECORDING	COLOUR BAR
TAPE	**M. EQ.**	**SPEC.**	
S-VHS BLANK TAPE	OSCILLO-SCOPE	MINIMUM AS POSSIBLE	

1. Set the mode select to S-VHS mode.
2. Adjust VR3002 so that the waveform becomes minimum.

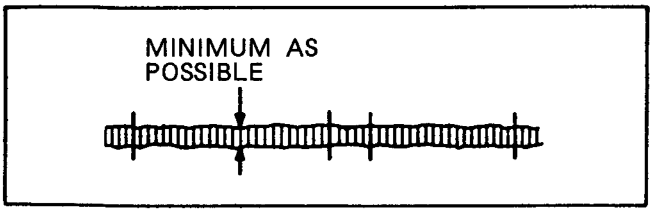

MINIMUM AS POSSIBLE

Fig.E11

13. CHROMA NOISE REDUCTION ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP3010	VR3003 VR3004	S-VHS SELF RECORDING	COLOUR BAR
TAPE	**M. EQ.**	**SPEC.**	
S-VHS BLANK TAPE	OSCILLO-SCOPE	MINIMUM AS POSSIBLE	

1. Set the mode select to S-VHS mode.
2. Play back the just recorded portion.
3. Connect the oscilloscope to TP3010.
4. Adjust VR3003 and VR3004 mutually so that the waveform is minimized.

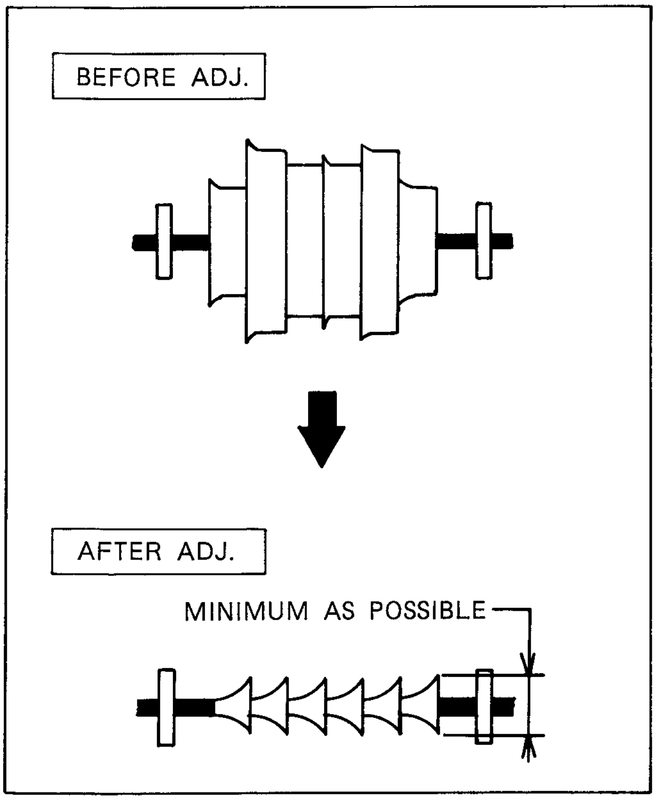

BEFORE ADJ.
AFTER ADJ.
MINIMUM AS POSSIBLE

Fig.E12

14. 2H COLOUR DROP ADJUSTMENT

TP	ADJ.	MODE	INPUT
VIDEO OUT	VR8002 (GAIN) C8006 (PHASE)	S-VHS SELF RECORDING	COLOUR BAR
TAPE	**M. EQ.**	**SPEC.**	
S-VHS BLANK TAPE	VECTORSCOPE	REFER TO FIG. E14	

1. Set the mode select to S-VHS mode.
2. Adjust VR8002 (Gain) and C8006 (Phase) so that the vectors are the same as gain and phase.

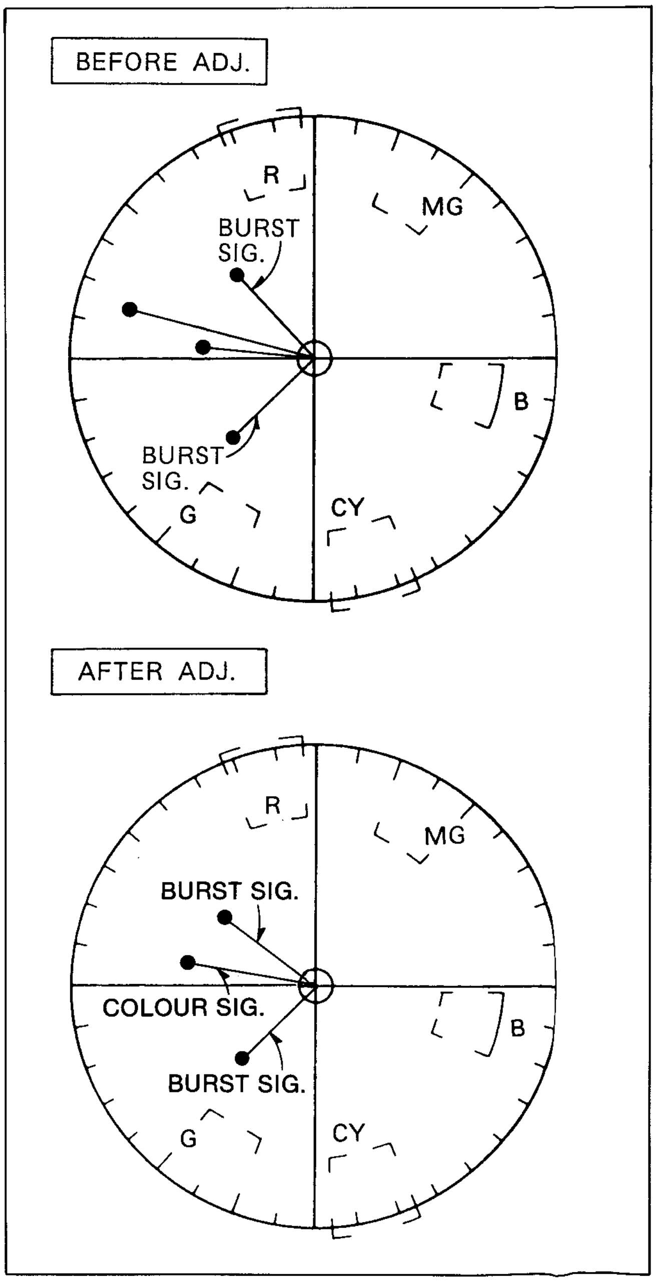

BEFORE ADJ.
R
MG
BURST SIG.
B
BURST SIG.
G
CY
AFTER ADJ.
R
MG
BURST SIG.
COLOUR SIG.
B
BURST SIG.
G
CY

Fig.E13

15. S-VHS VIDEO PLAYBACK LEVEL ADJUSTMENT 《S-VHS MODE》

TP	ADJ.	MODE	INPUT
VIDEO OUT	VR3009	S-VHS SELF RECORDING	COLOUR BAR
TAPE	**M. EQ.**	**SPEC.**	
S-VHS BLACK TAPE	OSCILLO-SCOPE	A: 1.0+-0.05Vp-p B: 0.5+-0.15Vp-p	

1. Set the unit to S-VHS mode.
2. Play back the just recorded portion.
3. Connect the scope to video output.
4. Adjust so that the level become A=1.0+-0.05Vp-p, B=0.5+-0.15Vp-p.

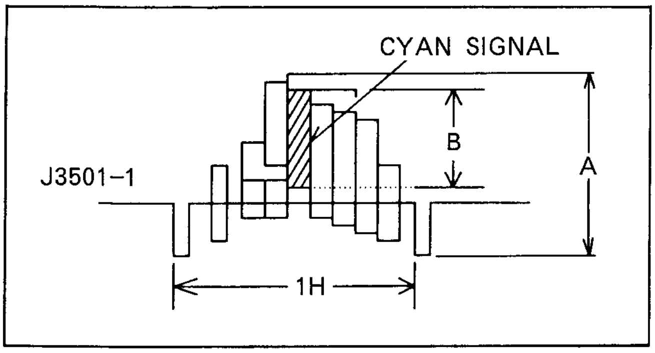


Fig. E14

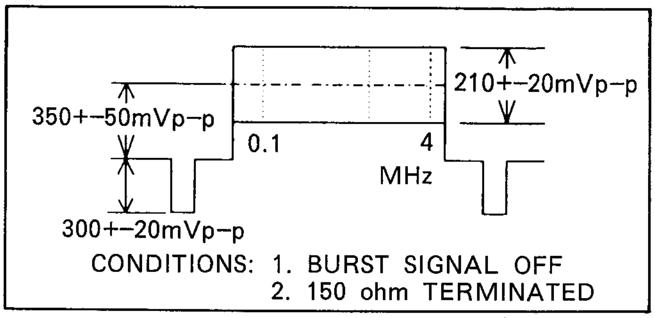
16. S-VHS HEAD AMP FREQUENCY RESPONCE ADJUSTMENT

《S-VHS MODE》

TP	ADJ.	MODE	INPUT
TP3005	VR3007	S-VHS SELF RECORDING	VIDEO SWEEP SIGNAL
TAPE	**M. EQ.**	**SPEC.**	
S-VHS BLANK TAPE	VIDEO SWEEP/ OSCILLO-SCOPE	A=-6+-1dB (45~56%)	

Note: Edit switch must be off.

1. Set the sweep generator output as shown below.



CONDITIONS: 1. BURST SIGNAL OFF
2. 150 ohm TERMINATED

Fig.E15

2. Supply the sweep signal to video circuit through Y/C separator.
3. Record the sweep signal for a few minutes.
4. Play back just recorded portion.
5. Adjust VR3007 so that the level at 4MHz (A) becomes within, specification comparing with the level at 0.1MHz as shown below.

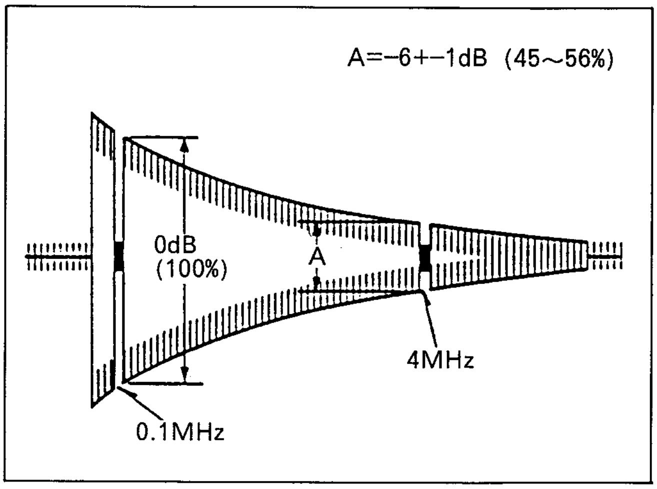


Fig.E16

17. HEAD AMP FREQUENCY RESPONCE ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP3005	VR3012	SELF RECORDING	VIDEO SWEEP SIGNAL
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	VIDEO SWEEP/ OSCILLO-SCOPE	A: 0+-3dB (71%~141%)	

Note: Edit switch must be off.

1. Set the sweep generator output as shown below.

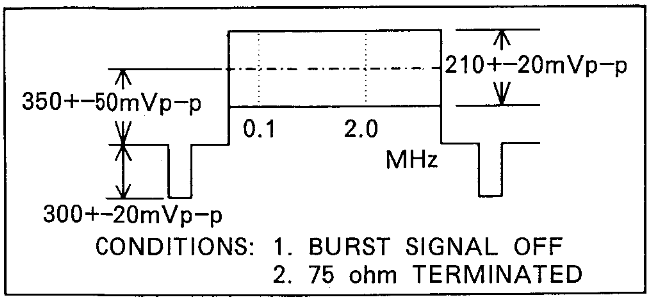

210+–20mVp–p
350+–50mVp–p
0.1
2.0
MHz
300+–20mVp–p
CONDITIONS: 1. BURST SIGNAL OFF
2. 75 ohm TERMINATED

Fig.E17

2. Supply the sweep signal to video circuit through the Y/C separator.
3. Record the sweep signal for a few minutes.
4. Play back the just recorded portion.
5. Adjust VR3012 so that the level at 2MHz (A) becomes within specification comparing with the level at 0.1MHz as shown in Fig. **E18.**

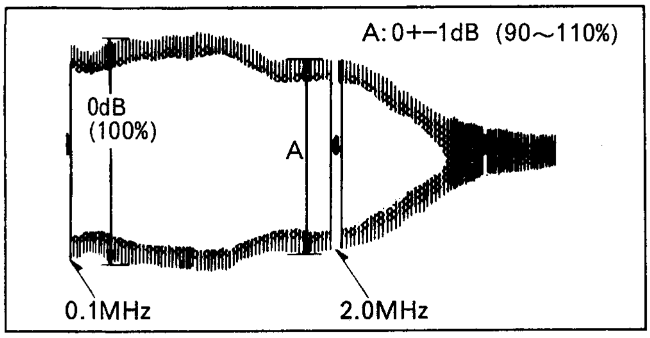

A: 0+–1dB (90～110%)
0dB
(100%)
A
0.1MHz
2.0MHz

Fig.E18

18. S-VHS PILOT BURST LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP8007	VR8003	S–VHS STOP	COLOUR BAR
TAPE	**M. EQ.**	**SPEC.**	
S–VHS BLANK TAPE	OSCILLO–SCOPE	A/B=110+–5%	

1. Record the video signal with S–VHS mode.
2. Connect the oscilloscope to TP8007.
3. Adjust VR8008 so that the ratio of level between pilot burst signal (A) and burst signal (B) becomes 110+–5%.

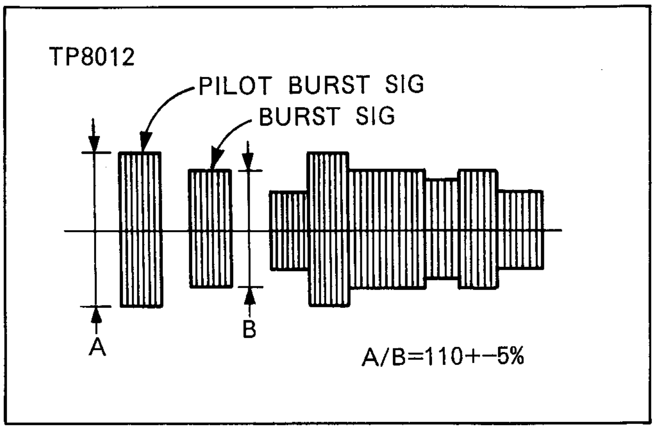

TP8012
PILOT BURST SIG
BURST SIG
A
B
A/B=110+–5%

Fig.E19

19. JUMP DELAY LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP3005	VR8504	SELF RECORDING (LP)	COLOUR BAR
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	OSCILLO–SCOPE	FLICKER IS MINIMIZED	

1. Set the Tape Speed Select to "LP" mode.
2. Play back the just recorded portion in Cue mode.
3. Adjust VR8504 so that the flicker of luminance signal is minimized.

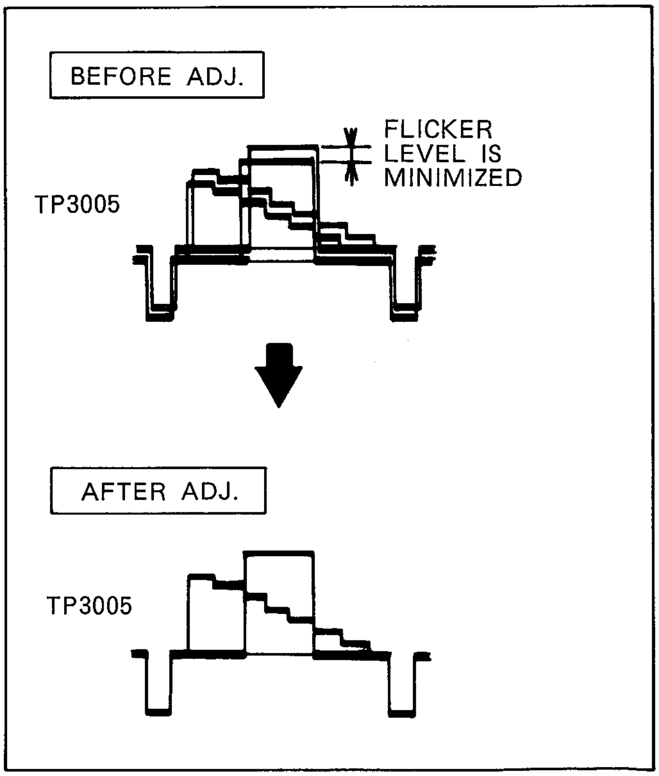

BEFORE ADJ.
FLICKER
LEVEL IS
MINIMIZED
TP3005
AFTER ADJ.
TP3005

Fig.E20

20. CHROMA DELAY LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP8504	VR8503	SELF RECORDING (LP)	COLOUR BAR
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	OSCILLO-SCOPE	1.0+-0.05Vp-p	

1. Set the tape speed select to LP mode.
2. Play back the just recorded portion and adjust VR8502 to 1.0+-0.05Vp-p.

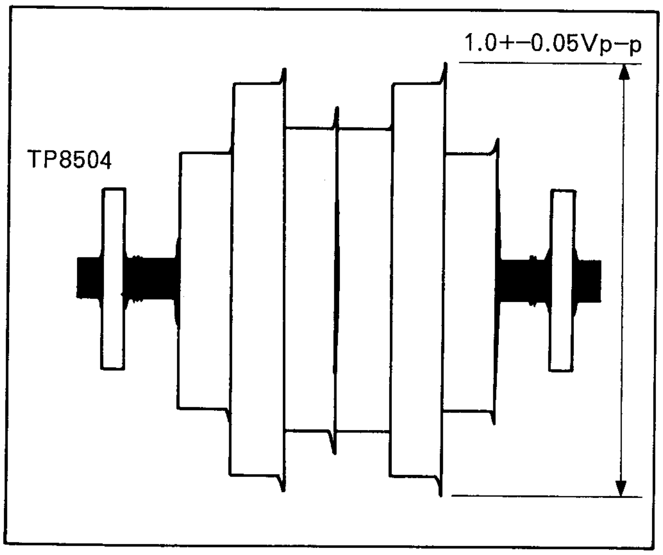


Fig.E21

21. JUMP CORRECTION AFC ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP8503	VR8502	PLAY	
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	FREQUENCY COUNTER	23.6kHz+-100Hz	

1. Connect the 100Kohm resistor between TP8502 and REG. 5V line.
2. Adjust VR8502 so that the reading of frequency counter is 23.6KHz+-100Hz.

22. REVERSED PHASE VIDEO OUTPUT LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP8012	VR8501	SELF RECORDING	COLOUR BAR
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	OSCILLO-SCOPE	A-B=0+-30mVp-p	

1. Supply the colour bar signal to video circuit through Y/C separator.
2. Playback the just recorded portion.
3. Confirm the A level when the unit places the playback mode.
4. Confirm the B level when the unit places the playback mode and connecting jumper wire among TP8501, TP8505 and GND.
5. Adjust VR8501 so that the level difference between A and B becomes 0+-30mVp-p.

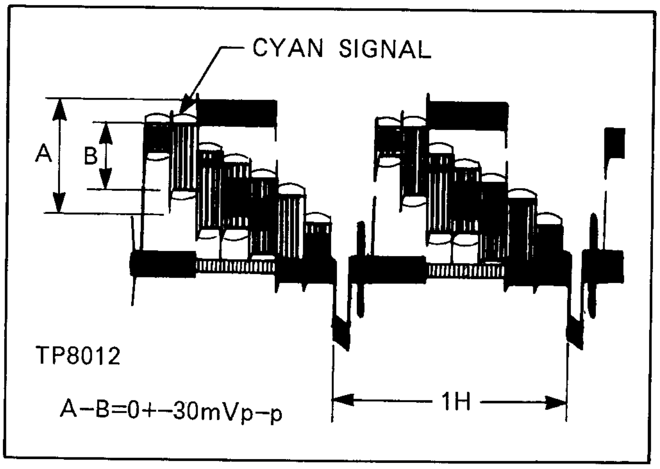


Fig.E22

AUDIO SECTION

23. AUDIO BIAS CURRENT ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP4002 (HOT) TP4003 (GND)	VR4002	REC/PLAY	
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	D.V.M.	2.7mVrms+-0.1mVrms	

24. AUDIO PLAYBACK LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
LINE OUT	VR4001	SELF RECORDING	1kHz AUDIO −70dB SIGNAL/ VIDEO SIGNAL
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	SIGNAL GENERA−TOR/D.V.M.	PB LEVEL=−8+−0.5dB	

1. Supply the audio signal (1KHz/−70dB sine−wave) to audio circuit through the MIC Input Jack.
2. Set the audio select SW to Normal position.
3. Adjust VR4001 so that the level is −8+−0.5dB Hi−Fi SECTION.

Hi-Fi AUDIO SECTION

25. Hi-Fi AUDIO CARRIER FREQUENCY ADJUSTMENT

TP	ADJ.	MODE	INPUT
IC4502−3(L) IC4502−30(R)	VR4501 (L) VR4509 (R)	STOP	
TAPE	**M. EQ.**	**SPEC.**	
	FREQUENCY COUNTER	1400+−10kHz (L) 1800+−10kHz (R)	

26. AUDIO DEVIATION ADJUSTMENT

TP	ADJ.	MODE	INPUT
IC4502−5(L) IC4502−28(R)	VR4502 (L) VR4507 (R)	REC. PLAY	1kHz, −30dB (30mVp−p) AUDIO SIGNAL
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	SIGNAL GENERATOR/ D.V.M.	160mVp−p	

1. Set the output (600−ohm Terminated) of the Signal generator to 1kHz and −30dB (30mVp−p), and supply it through the MIC Input Jack.
2. Adjust VR4502 to 160mVp−p at IC4502−5 on HiFi AUDIO C.B.A. for L−Channel.
3. Adjust VR4507 to 160mVp−p at IC4502−28 on HiFi AUDIO C.B.A. for R−Channel.

NOTE:

Audio signal output (1KHz/−30dB : 30mVp−p) should be terminated by 600−ohm.

27. S-VHS Hi-Fi AUDIO RECORDING CURRENT ADJUSTMENT

TP	ADJ.	MODE	INPUT
P5503−2(HOT) P5503−1(GND)	VR4503	S−VHS RECORDING	
TAPE	**M. EQ.**	**SPEC.**	
S−VHS BLANK TAPE	OSCILLO−SCOPE	150±5mVp-p	

1. Connect the OSCILLOSCOPE to P5503−2 (HOT) and P5503−1 (GND).
2. Adjust VR4503 so that the Audio recording current become 150 +− 5mVp−p as shown below.

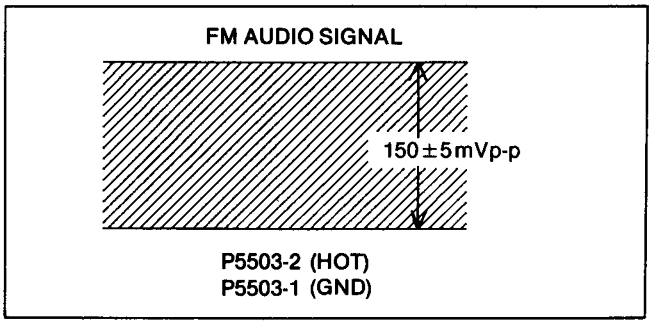


Fig.E23

28. AUDIO PLAYBACK LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
LINE OUT	VR4504 (L) VR4508 (R)	SELF RECORDING	SIGNAL GENERATOR (1kHz, −70dB)/ VIDEO SIGNAL
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	SIGNAL GENERATOR/ V.T.V.M	PLAYBACK LEVEL= −8±0.5dB	

Note:

Before this adjustment, Tape Interchangeability Adjustment must be completed.

1. Play back the just recorded portion.
2. Adjust VR4504 and VR4508 volumes respectively so that the level of the playback becomes E−E level +− 0.5dB (+−20mVrms).

1. Set the output (600−ohm Terminated) of the signal generator to 1kHz and −70dB.

29. AUDIO MUTING ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP4507	VR4505	SELF RECORDING	1kHz, –70dB AUDIO SIG.
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	OSCILLO-SCOPE	STEREO INDICATION JUST LIGHT UP	

Note1

Before this adjustment, Tape interchangeability Adjustment must be always completed.

Note 2:

To achieve this adjustment, the luminance recording current adjustment should be performed as follows.
First connect the oscilloscope to P5003–2 (HOT) and P5003–1 (GND) and then adjust VR3001 for 115mVp–p [refer to S–VHS Luminance Recording current Adjustment (Item 10–4)].
After this adjustment, the luminance recording current adjustment must be returned to original position again.

1. Set Audio Playback Mode Selector to STEREO position. (Both the Left and Right Indicators are lit.)
2. Preadjust VR4505 until the Hi–Fi indicator on the front panel display turns the NORMAL indication.
3. Then slowly adjust VR4505 where the STEREO indication just lights up.
4. Confirm that the abnormal sound does not contain in the playback Hi–Fi sound.

SYSTEM CONTROL SECTION

30. CHARACTER POSITION ADJUSTMENT

TP	ADJ.	MODE	INPUT
VIEW FINDER	C6004	STOP	
TAPE	**M. EQ.**	**SPEC.**	
	VIEW FINDER	CHARACTER IS CENTRE	

1. Connect the EVF unit to the VTR unit.
2. Display the battery remaining indicator and counter number on the EVF.
3. Adjust the osc control (C6004) so that the character position is shown below.

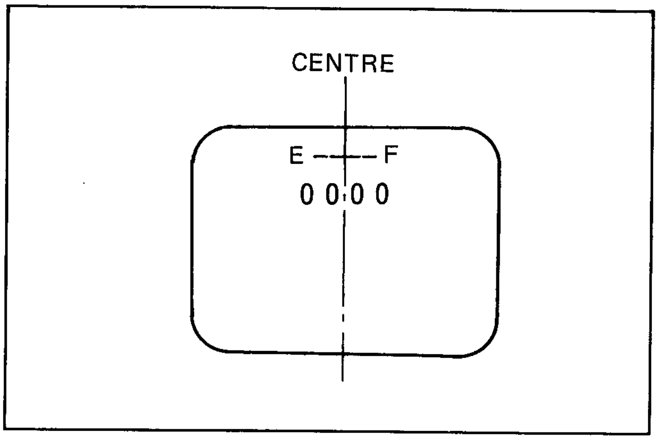


Fig.E24

31. DISPLAY MICROPROCESSOR FREQ. ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP6201	C6204	STOP	
TAPE	**M. EQ.**	**SPEC.**	
	FREQ. COUNTER	1953125+–3.9nsec	

32. UNDER CUT ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP6001	VR6001	REC/PLAY	
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	OSCILLO–SCOPE/ DC POWER SUPPLY/ D.V.M.		

Note:

Do not connect AC Adaptor, connect a DC Power Supply to pin 2 (+) and pin 1 (–) of p1001, then supply the voltage 8.64 +– 0.05V.

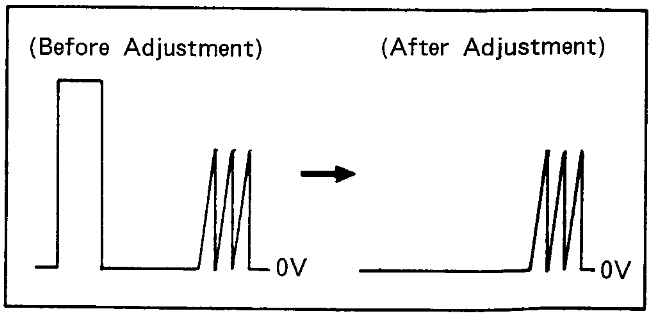
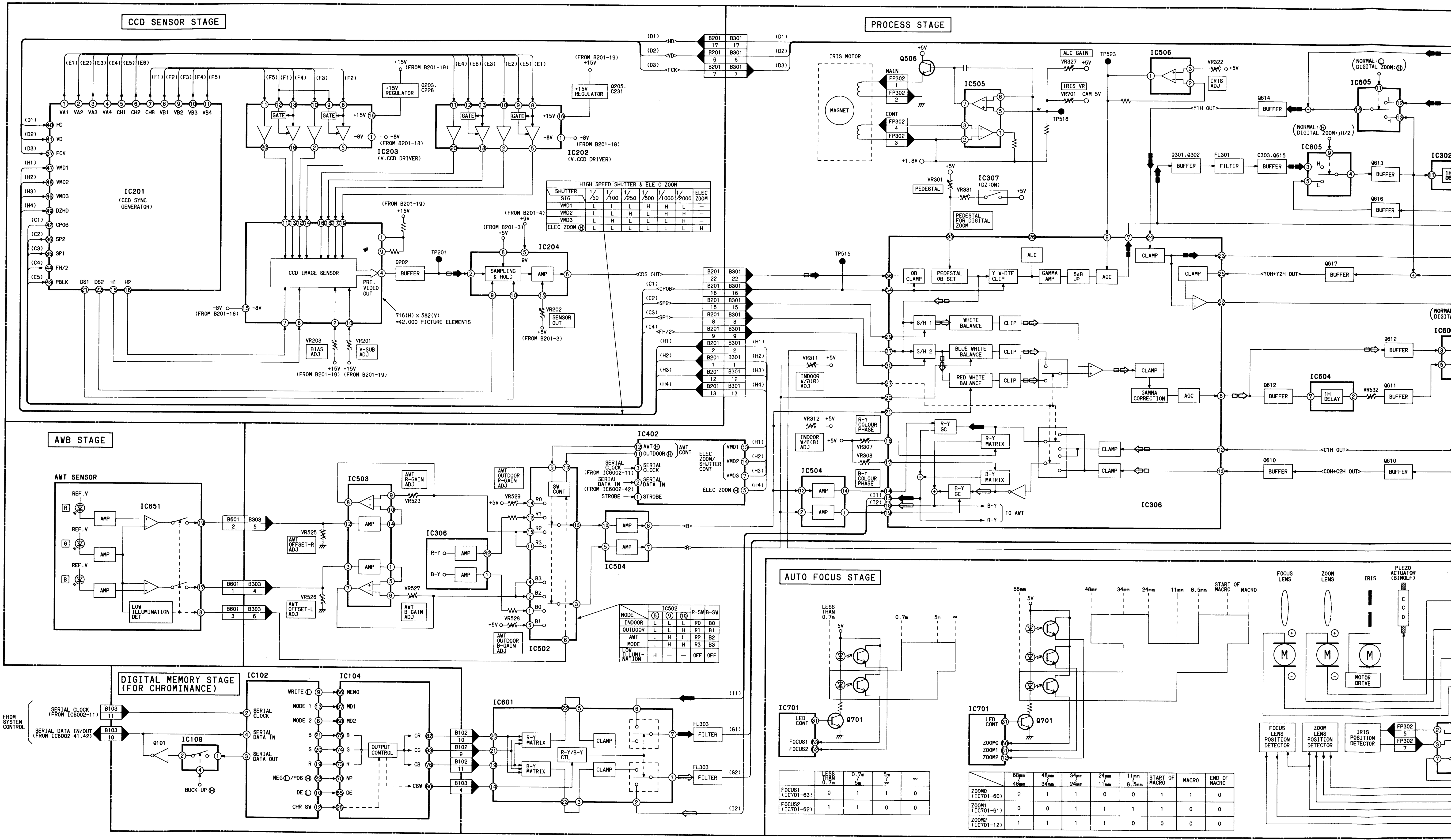


Fig.E25

SECTION 3
BLOCK DIAGRAM & SCHEMATIC DIAGRAM

3-1. CAMERA STAGE BLOCK DIAGRAM

LUMINANCE SIGNAL
PRE VIDEO SIGNAL
CHROMINANCE SIGNAL
B-Y/R-Y COMPOSITE SIGNAL
R-Y SIGNAL
B-Y SIGNAL


CCD SENSOR STAGE
IC201 (CCD SYNC GENERATOR)
IC203 (V.CCD DRIVER)
IC202 (V.CCD DRIVER)
+15V REGULATOR Q203, C228
+15V REGULATOR Q205, C231
GATE
CCD IMAGE SENSOR
PRE. VIDEO OUT
716(H) × 582(V) =42.000 PICTURE ELEMENTS
VR203 BIAS ADJ
VR201 V-SUB ADJ
Q202 BUFFER
TP201
IC204
SAMPLING & HOLD
AMP
VR202 SENSOR OUT
<CDS OUT>
PROCESS STAGE
IRIS MOTOR
MAGNET
Q506
IC505
ALC GAIN VR327
IRIS VR VR701
TP523
TP516
IC506
VR322 IRIS ADJ
IC307 (DZ:ON)
VR301 PEDESTAL
VR331
PEDESTAL FOR DIGITAL ZOOM
TP515
OB CLAMP
PEDESTAL OB SET
Y WHITE CLIP
GAMMA AMP
6dB UP
AGC
ALC
CLAMP
S/H 1
S/H 2
WHITE BALANCE
BLUE WHITE BALANCE
RED WHITE BALANCE
CLIP
GAMMA CORRECTION
VR311 INDOOR W/B(R) ADJ
VR312 INDOOR W/B(B) ADJ
VR307
VR308
R-Y COLOUR PHASE
B-Y COLOUR PHASE
R-Y GC
B-Y GC
R-Y MATRIX
B-Y MATRIX
IC306
IC504
TO AWT
IC605
IC604 1H DELAY
Q614 BUFFER
Q301, Q302 BUFFER
FL301 FILTER
Q303, Q615 BUFFER
Q613 BUFFER
Q616 BUFFER
Q617 BUFFER
Q612 BUFFER
Q611 BUFFER
Q610 BUFFER
VR532
<Y1H OUT>
<YOH+Y2H OUT>
<C1H OUT>
<COH+C2H OUT>
(NORMAL: L DIGITAL ZOOM: H)
(NORMAL: H DIGITAL ZOOM: fH/2)
AWB STAGE
AWT SENSOR
REF.V
IC651
LOW ILLUMINATION DET
IC503
AWT R-GAIN ADJ VR523
VR525 AWT OFFSET-R ADJ
VR526 AWT OFFSET-L ADJ
AWT B-GAIN ADJ VR527
AWT OUTDOOR R-GAIN ADJ VR529
AWT OUTDOOR B-GAIN ADJ VR528
IC306
IC502
SW CONT
IC402
AWT CONT
ELEC ZOOM/SHUTTER CONT
SERIAL CLOCK (FROM IC6002-11)
SERIAL DATA IN (FROM IC6002-42)
STROBE
ELEC ZOOM
DIGITAL MEMORY STAGE (FOR CHROMINANCE)
FROM SYSTEM CONTROL
SERIAL CLOCK (FROM IC6002-11)
SERIAL DATA IN/OUT (FROM IC6002-41.42)
Q101
IC109
BUCK-UP
IC102
IC104
OUTPUT CONTROL
IC601
R-Y MATRIX
B-Y MATRIX
R-Y/B-Y CTL
FL303 FILTER
AUTO FOCUS STAGE
IC701
LED CONT
Q701
FOCUS1
FOCUS2
ZOOM0
ZOOM1
ZOOM2
FOCUS LENS
ZOOM LENS
IRIS
PIEZO ACTUATOR (BIMOLF)
CCD
MOTOR DRIVE
FOCUS LENS POSITION DETECTOR
ZOOM LENS POSITION DETECTOR
IRIS POSITION DETECTOR
FP302

HIGH SPEED SHUTTER & ELE C ZOOM							
SHUTTER / SIG	1/50	1/100	1/250	1/500	1/1000	1/2000	ELEC ZOOM
VMD1	L	L	L	H	H	L	—
VMD2	L	L	H	L	H	H	—
VMD3	L	H	L	L	L	H	—
ELEC ZOOM Ⓗ	L	L	L	L	L	L	H

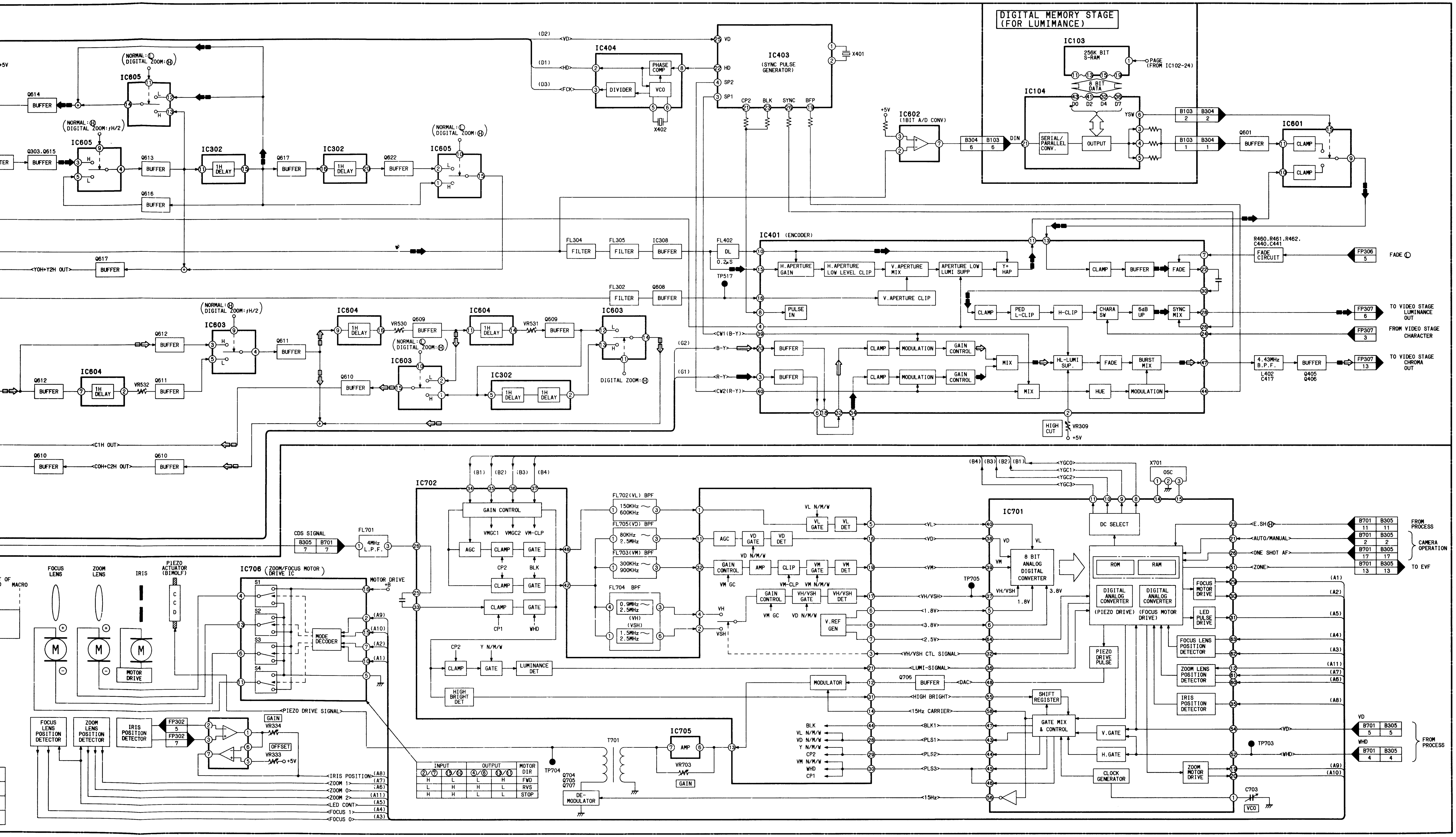
MODE	IC502 ⑥	IC502 ⑨	IC502 ⑩	R-SW	B-SW
INDOOR	L	L	L	R0	B0
OUTDOOR	L	L	H	R1	B1
AWT MODE	L	H	L	R2	B2
	L	H	H	R3	B3
LOW ILLUMI-NATION	H	—	—	OFF	OFF

	LESS THAN 0.7m	0.7m ~ 5m	5m ~ ∞	∞
FOCUS1 (IC701-63)	0	1	1	0
FOCUS2 (IC701-62)	1	1	0	0

	68mm ~ 48mm	48mm ~ 34mm	34mm ~ 24mm	24mm ~ 11mm	11mm ~ 8.5mm	START OF MACRO	MACRO	END OF MACRO
ZOOM0 (IC701-60)	0	1	1	0	0	1	1	0
ZOOM1 (IC701-61)	0	0	1	1	1	1	0	0
ZOOM2 (IC701-12)	1	1	1	1	0	0	0	0

-Y SIGNAL

-Y SIGNAL

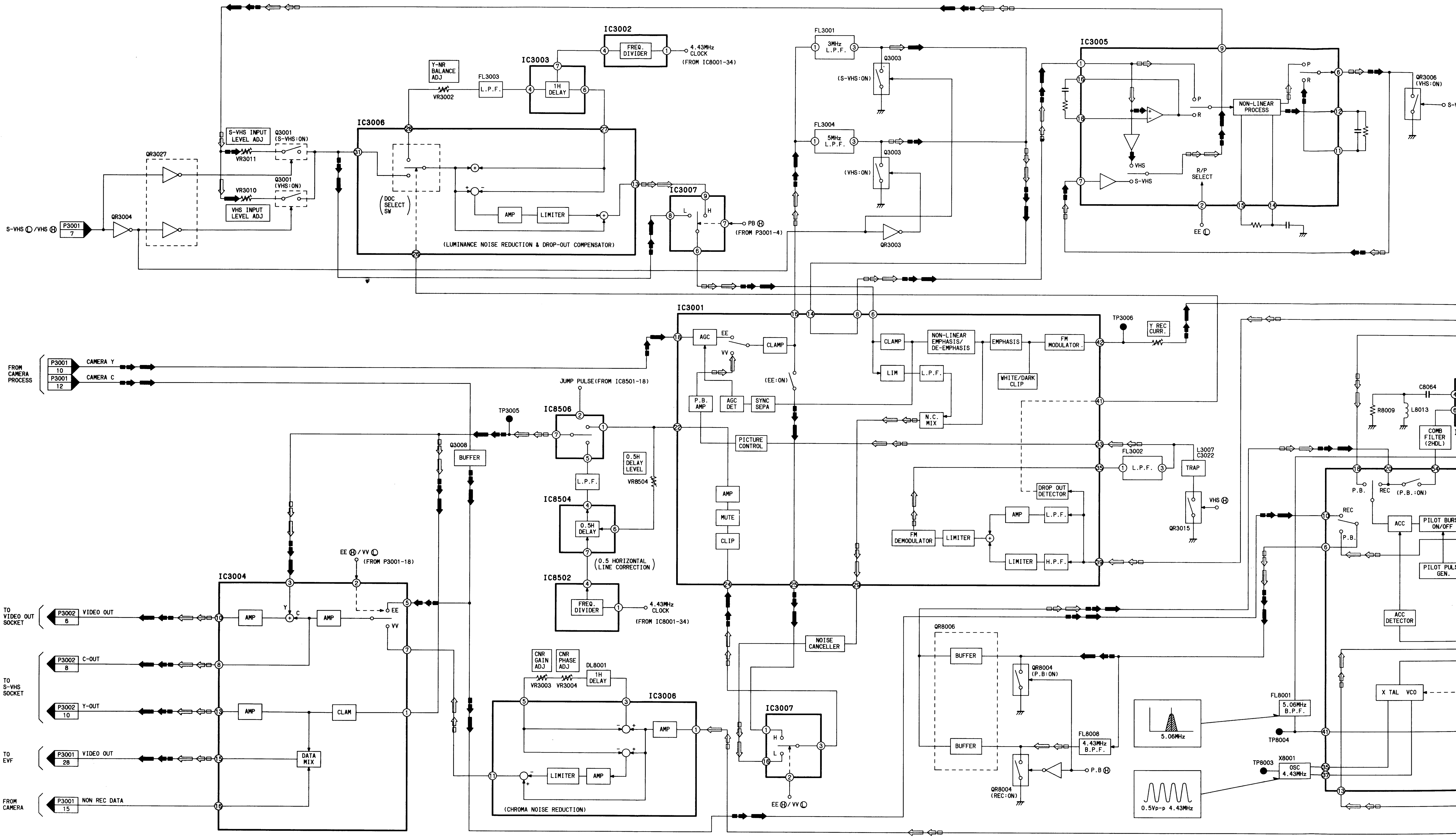

DIGITAL MEMORY STAGE (FOR LUMIMANCE)
IC103
256K BIT S-RAM
PAGE (FROM IC102-24)
8 BIT DATA
IC104
SERIAL/PARALLEL CONV.
OUTPUT
IC403
(SYNC PULSE GENERATOR)
IC404
PHASE COMP
DIVIDER
VCO
X401
X402
IC602
(1BIT A/D CONV)
IC601
CLAMP
BUFFER
IC605
(NORMAL: Ⓛ DIGITAL ZOOM: Ⓗ)
(NORMAL: Ⓗ DIGITAL ZOOM: fH/2)
IC302
1H DELAY
IC603
IC604
Q614
Q303.Q615
Q613
Q616
Q617
Q622
Q612
Q611
Q609
Q610
VR530
VR531
VR532
<YOH+Y2H OUT>
<C1H OUT>
<COH+C2H OUT>
DIGITAL ZOOM: Ⓗ
FL304
FL305
IC308
FL402
DL
0.2μS
TP517
FL302
Q608
FILTER
IC401 (ENCODER)
H.APERTURE GAIN
H.APERTURE LOW LEVEL CLIP
V.APERTURE MIX
APERTURE LOW LUMI SUPP
Y+HAP
V.APERTURE CLIP
PULSE IN
PED L-CLIP
H-CLIP
CHARA SW
6dB UP
SYNC MIX
MODULATION
GAIN CONTROL
MIX
HL-LUMI SUP.
FADE
BURST MIX
HUE
HIGH CUT
VR309
+5V
<CW1(B-Y)>
<B-Y>
<R-Y>
<CW2(R-Y)>
R460.R461.R462. C440.C441
FADE CIRCUIT
FP306
FADE Ⓛ
FP307
TO VIDEO STAGE LUMINANCE OUT
FROM VIDEO STAGE CHARACTER
TO VIDEO STAGE CHROMA OUT
4.43MHz B.P.F.
L402 C417
Q405 Q406
IC702
GAIN CONTROL
VMGC1 VMGC2 VM-CLP
AGC
CLAMP
GATE
CP2
BLK
CP1
WHD
Y N/M/W
LUMINANCE DET
HIGH BRIGHT DET
CDS SIGNAL
B305
B701
FL701
4MHz L.P.F.
FL702(VL) BPF 150KHz 600KHz
FL705(VD) BPF 80KHz 2.5MHz
FL703(VM) BPF 300KHz 900KHz
FL704 BPF 0.9MHz 2.5MHz (VH) (VSH) 1.5MHz 2.5MHz
VL N/M/W
VL GATE
VL DET
VD GATE
VD DET
VD N/M/W
GAIN CONTROL
VM GC
AMP
CLIP
VM GATE
VM DET
VM-CLP
VM N/M/W
VH/VSH GATE
VH/VSH DET
V.REF GEN
MODULATOR
Q706
BUFFER
<DAC>
<VH/VSH CTL SIGNAL>
<LUMI-SIGNAL>
<HIGH BRIGHT>
<15Hz CARRIER>
<BLK1>
<PLS1>
<PLS2>
<PLS3>
<15Hz>
BLK
VL N/M/W
VD N/M/W
Y N/M/W
CP2
VM N/M/W
WHD
CP1
IC705
AMP
VR703
GAIN
T701
TP704
Q704 Q705 Q707
DE-MODULATOR
IC701
8 BIT ANALOG DIGITAL CONVERTER
TP705
DC SELECT
X701
OSC
ROM
RAM
DIGITAL ANALOG CONVERTER (PIEZO DRIVE)
DIGITAL ANALOG CONVERTER (FOCUS MOTOR DRIVE)
FOCUS MOTOR DRIVE
LED PULSE DRIVE
FOCUS LENS POSITION DETECTOR
ZOOM LENS POSITION DETECTOR
IRIS POSITION DETECTOR
PIEZO DRIVE PULSE
SHIFT REGISTER
GATE MIX & CONTROL
V.GATE
H.GATE
CLOCK GENERATOR
ZOOM MOTOR DRIVE
C703
VCO
TP703
<YGC0> <YGC1> <YGC2> <YGC3>
<E.SH Ⓗ>
<AUTO/MANUAL>
<ONE SHOT AF>
<ZONE>
<VD>
<WHD>
FROM PROCESS
CAMERA OPERATION
TO EVF
IC706 (ZOOM/FOCUS MOTOR DRIVE IC)
MOTOR DRIVE +B
S1 S2 S3 S4
MODE DECODER
MACRO
FOCUS LENS
ZOOM LENS
IRIS
PIEZO ACTUATOR (BIMOLF)
CCD
M
MOTOR DRIVE
FOCUS LENS POSITION DETECTOR
ZOOM LENS POSITION DETECTOR
IRIS POSITION DETECTOR
FP302
GAIN
VR334
OFFSET
VR333
<PIEZO DRIVE SIGNAL>
<IRIS POSITION>
<ZOOM 1>
<ZOOM 0>
<ZOOM 2>
<LED CONT>
<FOCUS 1>
<FOCUS 0>

INPUT		OUTPUT		MOTOR DIR
②/⑦	⑮/⑩	④/⑥	⑬/⑪	
H	L	L	H	FWD
L	H	H	L	RVS
H	H	L	L	STOP

3-2. LUMINANCE & CHROMINANCE BLOCK DIAGRAM

MAIN SIGNAL PATH IN REC MODE(VHS)

MAIN SIGNAL PATH IN REC MODE(S-VHS



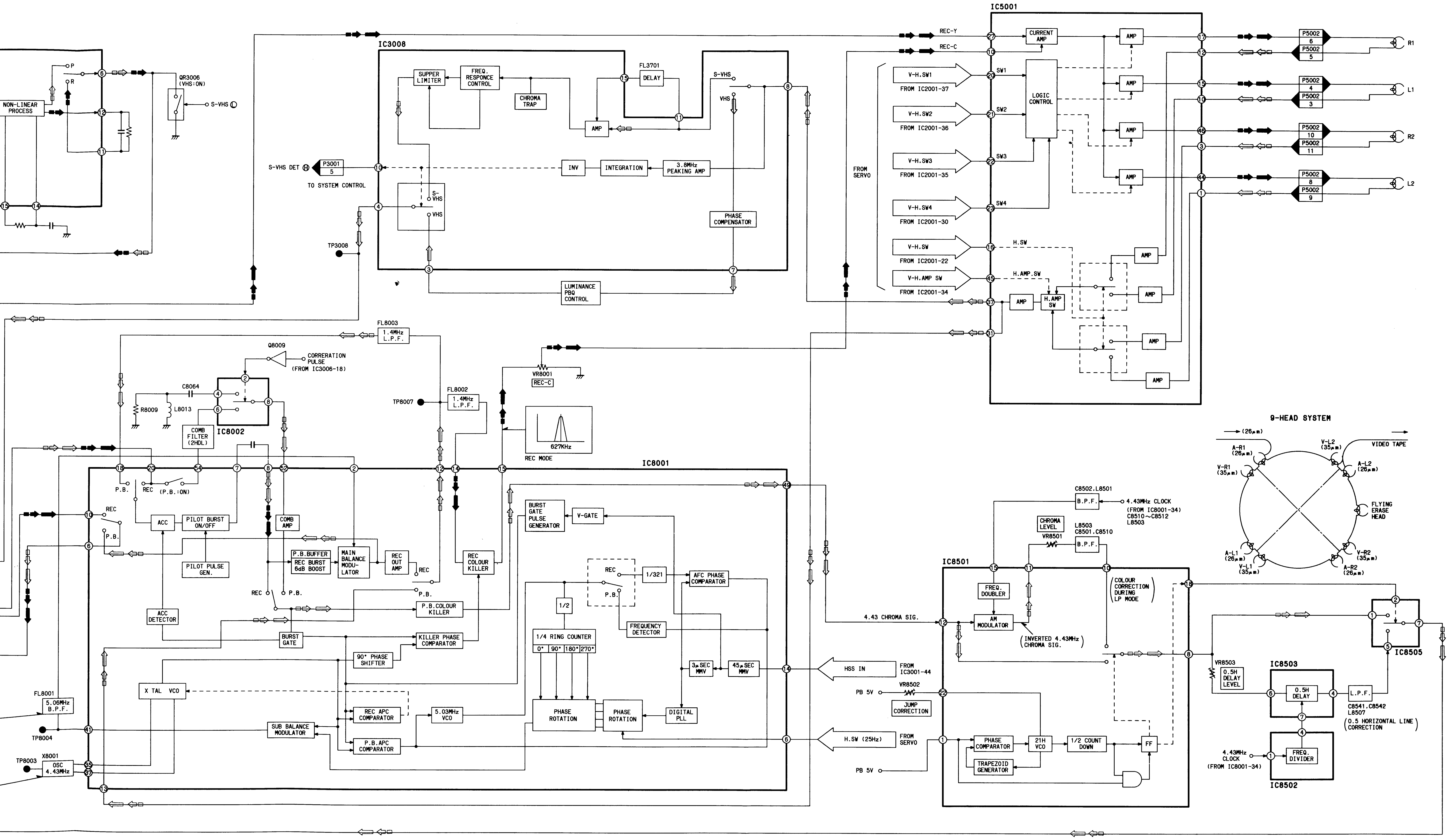
IC3002
FREQ. DIVIDER
4.43MHz CLOCK (FROM IC8001-34)
IC3003
1H DELAY
Y-NR BALANCE ADJ
VR3002
FL3003
L.P.F.
IC3006
(LUMINANCE NOISE REDUCTION & DROP-OUT COMPENSATOR)
DOC SELECT SW
AMP
LIMITER
S-VHS INPUT LEVEL ADJ
VR3011
Q3001 (S-VHS:ON)
VR3010
Q3001 (VHS:ON)
VHS INPUT LEVEL ADJ
QR3027
QR3004
S-VHS Ⓛ/VHS Ⓗ
P3001 7
IC3007
PB Ⓗ (FROM P3001-4)
FL3001
3MHz L.P.F.
Q3003
(S-VHS:ON)
FL3004
5MHz L.P.F.
(VHS:ON)
QR3003
IC3005
NON-LINEAR PROCESS
VHS
S-VHS
R/P SELECT
EE Ⓛ
QR3006 (VHS:ON)
FROM CAMERA PROCESS
P3001 10
CAMERA Y
P3001 12
CAMERA C
IC3001
AGC
EE
VV
CLAMP
(EE:ON)
P.B. AMP
AGC DET
SYNC SEPA
PICTURE CONTROL
NON-LINEAR EMPHASIS/ DE-EMPHASIS
EMPHASIS
FM MODULATOR
LIM
L.P.F.
N.C. MIX
WHITE/DARK CLIP
TP3006
Y REC CURR.
FL3002
L3007 C3022
TRAP
QR3015
VHS Ⓗ
DROP OUT DETECTOR
FM DEMODULATOR
LIMITER
H.P.F.
AMP
MUTE
CLIP
NOISE CANCELLER
JUMP PULSE(FROM IC8501-18)
TP3005
IC8506
Q3008
BUFFER
0.5H DELAY LEVEL
VR8504
IC8504
0.5H DELAY
(0.5 HORIZONTAL LINE CORRECTION)
IC8502
FREQ. DIVIDER
4.43MHz CLOCK (FROM IC8001-34)
EE Ⓗ/VV Ⓛ (FROM P3001-18)
IC3004
TO VIDEO OUT SOCKET
P3002 6
VIDEO OUT
TO S-VHS SOCKET
P3002 8
C-OUT
P3002 10
Y-OUT
CLAM
DATA MIX
TO EVF
P3001 28
VIDEO OUT
FROM CAMERA
P3001 15
NON REC DATA
CNR GAIN ADJ
CNR PHASE ADJ
VR3003
VR3004
DL8001
1H DELAY
(CHROMA NOISE REDUCTION)
EE Ⓗ/VV Ⓛ
QR8006
BUFFER
QR8004 (P.B:ON)
QR8004 (REC:ON)
FL8008
4.43MHz B.P.F.
P.B Ⓗ
5.06MHz
0.5Vp-p 4.43MHz
FL8001
5.06MHz B.P.F.
TP8004
TP8003
X8001
OSC 4.43MHz
C8064
R8009
L8013
COMB FILTER (2HDL)
P.B.
REC
(P.B.:ON)
ACC
PILOT BURS ON/OFF
PILOT PULS GEN.
ACC DETECTOR
X TAL VCO

Back Page: CAMERA STAGE Section

L PATH IN REC MODE(S-VHS)

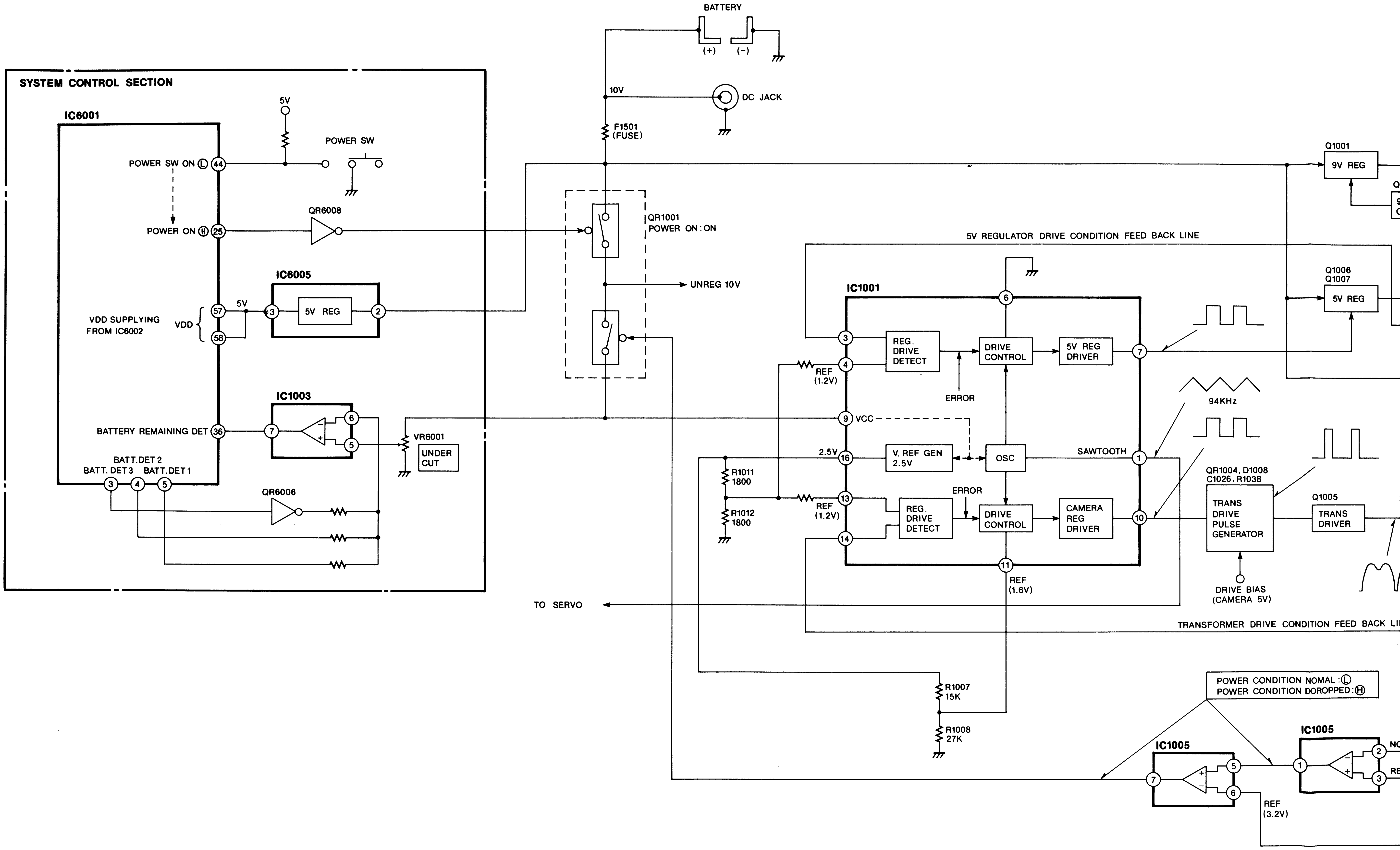
⇦ MAIN SIGNAL PATH IN PLAYBACK MODE(VHS)

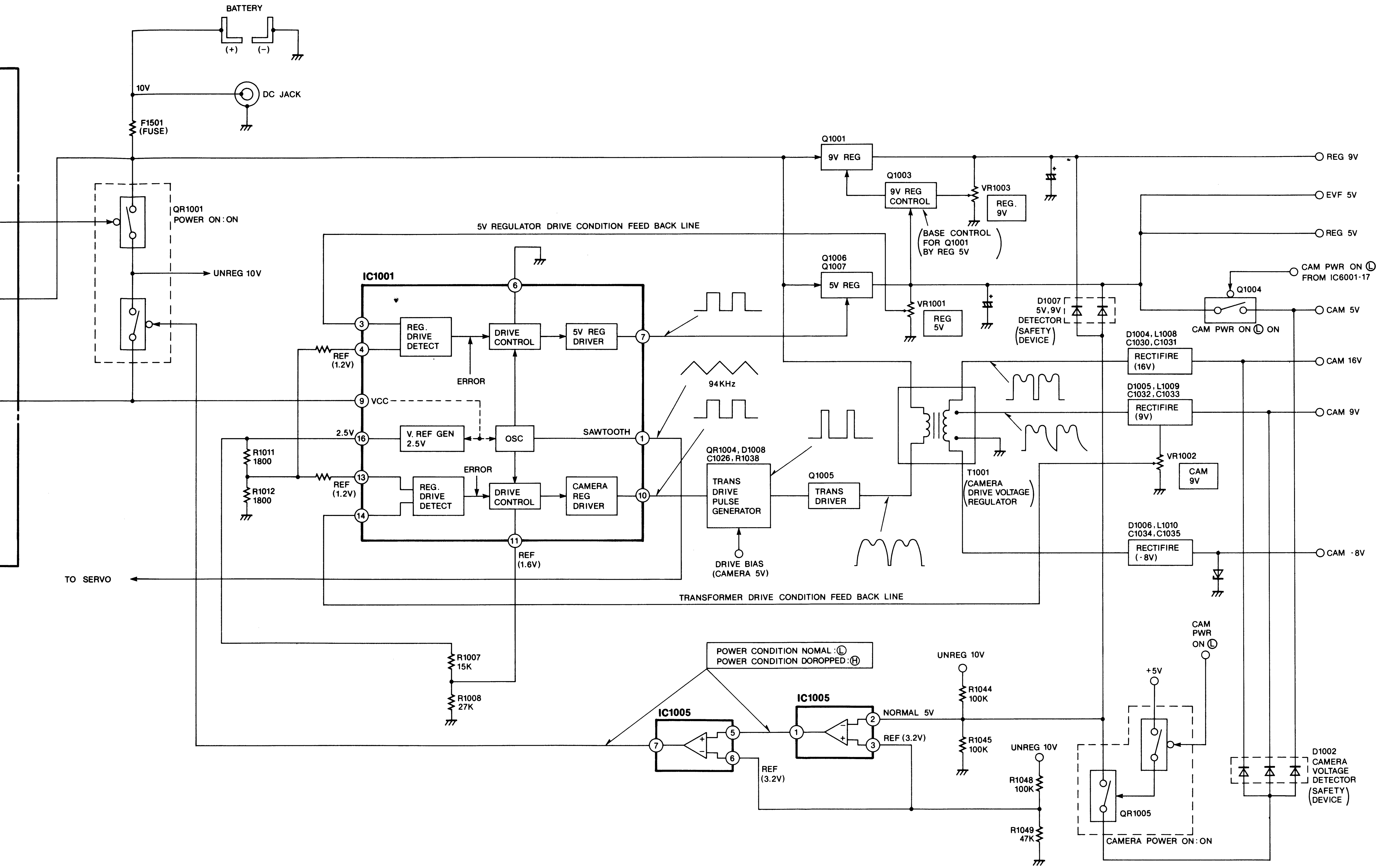
⇦□ MAIN SIGNAL PATH IN PLAYBACK MODE(S-VHS)



IC5001
REC-Y
REC-C
CURRENT AMP
AMP
LOGIC CONTROL
P5002 6
P5002 5
P5002 4
P5002 3
P5002 10
P5002 11
P5002 8
P5002 9
R1
L1
R2
L2
V-H.SW1
FROM IC2001-37
V-H.SW2
FROM IC2001-36
V-H.SW3
FROM IC2001-35
V-H.SW4
FROM IC2001-30
V-H.SW
FROM IC2001-22
V-H.AMP SW
FROM IC2001-34
FROM SERVO
SW1
SW2
SW3
SW4
H.SW
H.AMP.SW
H.AMP SW
IC3008
SUPPER LIMITER
FREQ. RESPONCE CONTROL
CHROMA TRAP
FL3701
DELAY
AMP
S-VHS
VHS
INV
INTEGRATION
3.8MHz PEAKING AMP
PHASE COMPENSATOR
S-VHS DET
P3001 5
TO SYSTEM CONTROL
TP3008
LUMINANCE PBQ CONTROL
NON-LINEAR PROCESS
P
R
QR3006 (VHS:ON)
S-VHS
FL8003
1.4MHz L.P.F.
Q8009
CORRERATION PULSE (FROM IC3006-18)
C8064
R8009
L8013
COMB FILTER (2HDL)
IC8002
FL8002
1.4MHz L.P.F.
TP8007
VR8001
REC-C
627KHz
REC MODE
IC8001
P.B.
REC
REC (P.B.:ON)
ACC
PILOT BURST ON/OFF
COMB AMP
PILOT PULSE GEN.
P.B.BUFFER
REC BURST 6dB BOOST
MAIN BALANCE MODU-LATOR
REC OUT AMP
REC COLOUR KILLER
BURST GATE PULSE GENERATOR
V-GATE
1/321
AFC PHASE COMPARATOR
1/2
FREQUENCY DETECTOR
1/4 RING COUNTER
0°
90°
180°
270°
P.B.COLOUR KILLER
ACC DETECTOR
BURST GATE
KILLER PHASE COMPARATOR
90° PHASE SHIFTER
3μSEC MMV
45μSEC MMV
X TAL VCO
REC APC COMPARATOR
5.03MHz VCO
PHASE ROTATION
PHASE ROTATION
DIGITAL PLL
SUB BALANCE MODULATOR
P.B.APC COMPARATOR
FL8001
5.06MHz B.P.F.
TP8004
TP8003
X8001
OSC 4.43MHz
HSS IN
FROM IC3001-44
H.SW (25Hz)
FROM SERVO
PB 5V
VR8502
JUMP CORRECTION
4.43 CHROMA SIG.
IC8501
C8502.L8501
B.P.F.
4.43MHz CLOCK (FROM IC8001-34)
C8510~C8512
L8503
CHROMA LEVEL
VR8501
L8503
C8501.C8510
B.P.F.
FREQ. DOUBLER
AM MODULATOR
(INVERTED 4.43MHz CHROMA SIG.)
(COLOUR CORRECTION DURING LP MODE)
PHASE COMPARATOR
TRAPEZOID GENERATOR
21H VCO
1/2 COUNT DOWN
FF
VR8503
0.5H DELAY LEVEL
IC8503
0.5H DELAY
L.P.F.
C8541.C8542
L8507
(0.5 HORIZONTAL LINE CORRECTION)
IC8505
4.43MHz CLOCK (FROM IC8001-34)
FREQ. DIVIDER
IC8502
9-HEAD SYSTEM
(26μm)
A-R1 (26μm)
V-R1 (35μm)
V-L2 (35μm)
VIDEO TAPE
A-L2 (26μm)
FLYING ERASE HEAD
A-L1 (26μm)
V-L1 (35μm)
V-R2 (35μm)
A-R2 (26μm)

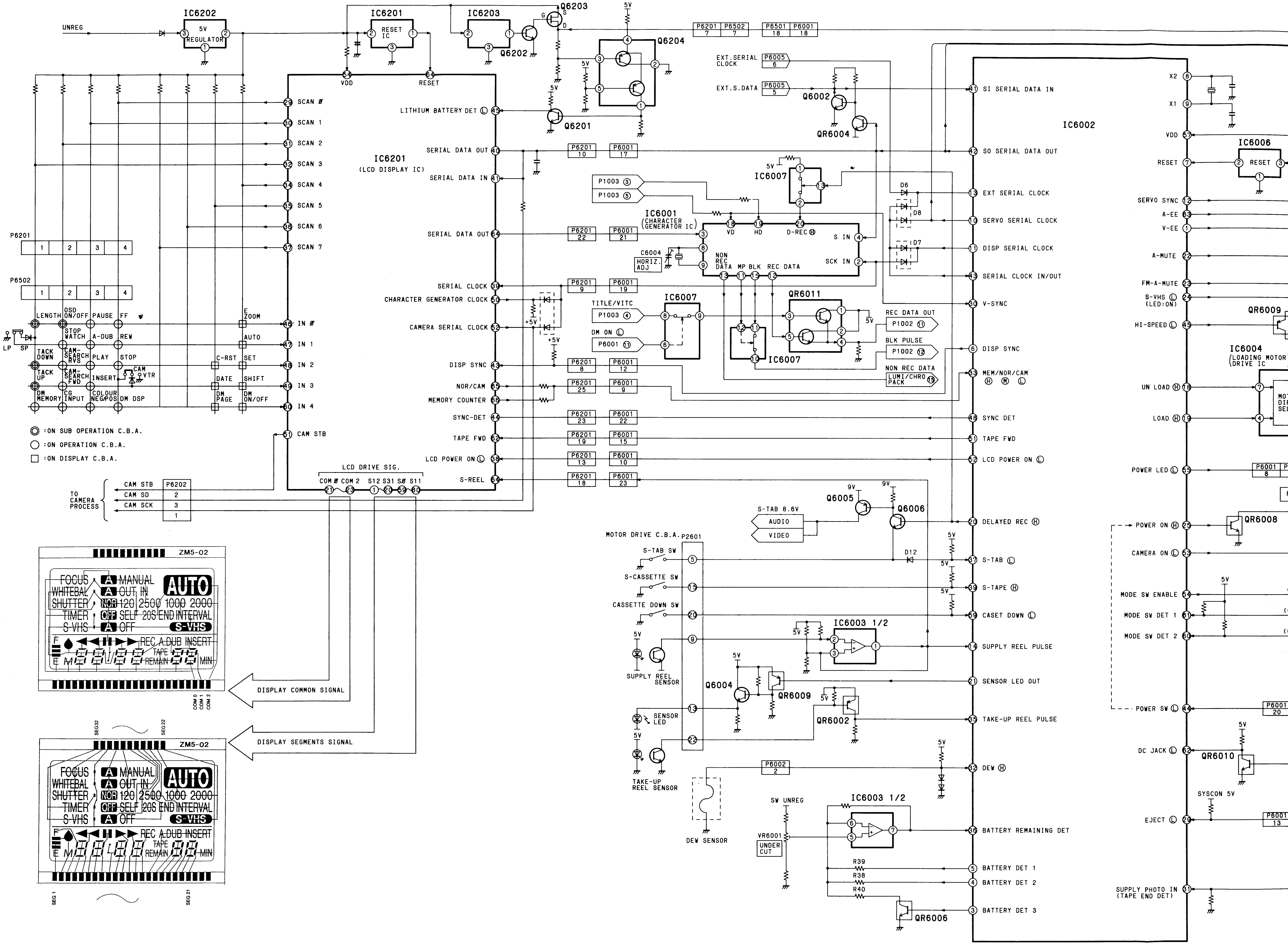
3-3. POWER SUPPLY BLOCK DIAGRAM


SYSTEM CONTROL SECTION
IC6001
POWER SW ON Ⓛ 44
POWER ON Ⓗ 25
VDD SUPPLYING FROM IC6002
VDD
57
58
BATTERY REMAINING DET 36
BATT.DET 2
BATT.DET3
BATT.DET1
3
4
5
5V
POWER SW
QR6008
IC6005
5V REG
3
2
IC1003
7
6
5
VR6001
UNDER CUT
QR6006
BATTERY
(+)
(-)
10V
DC JACK
F1501 (FUSE)
QR1001
POWER ON : ON
UNREG 10V
TO SERVO
Q1001
9V REG
5V REGULATOR DRIVE CONDITION FEED BACK LINE
Q1006
Q1007
5V REG
IC1001
REG. DRIVE DETECT
DRIVE CONTROL
5V REG DRIVER
REF (1.2V)
ERROR
9 VCC
2.5V
V. REF GEN 2.5V
OSC
SAWTOOTH
94KHz
REG. DRIVE DETECT
DRIVE CONTROL
CAMERA REG DRIVER
REF (1.2V)
REF (1.6V)
R1011 1800
R1012 1800
QR1004, D1008
C1026, R1038
TRANS DRIVE PULSE GENERATOR
DRIVE BIAS (CAMERA 5V)
Q1005
TRANS DRIVER
TRANSFORMER DRIVE CONDITION FEED BACK LI
R1007 15K
R1008 27K
POWER CONDITION NOMAL : Ⓛ
POWER CONDITION DOROPPED : Ⓗ
IC1005
IC1005
REF (3.2V)
NC
RE

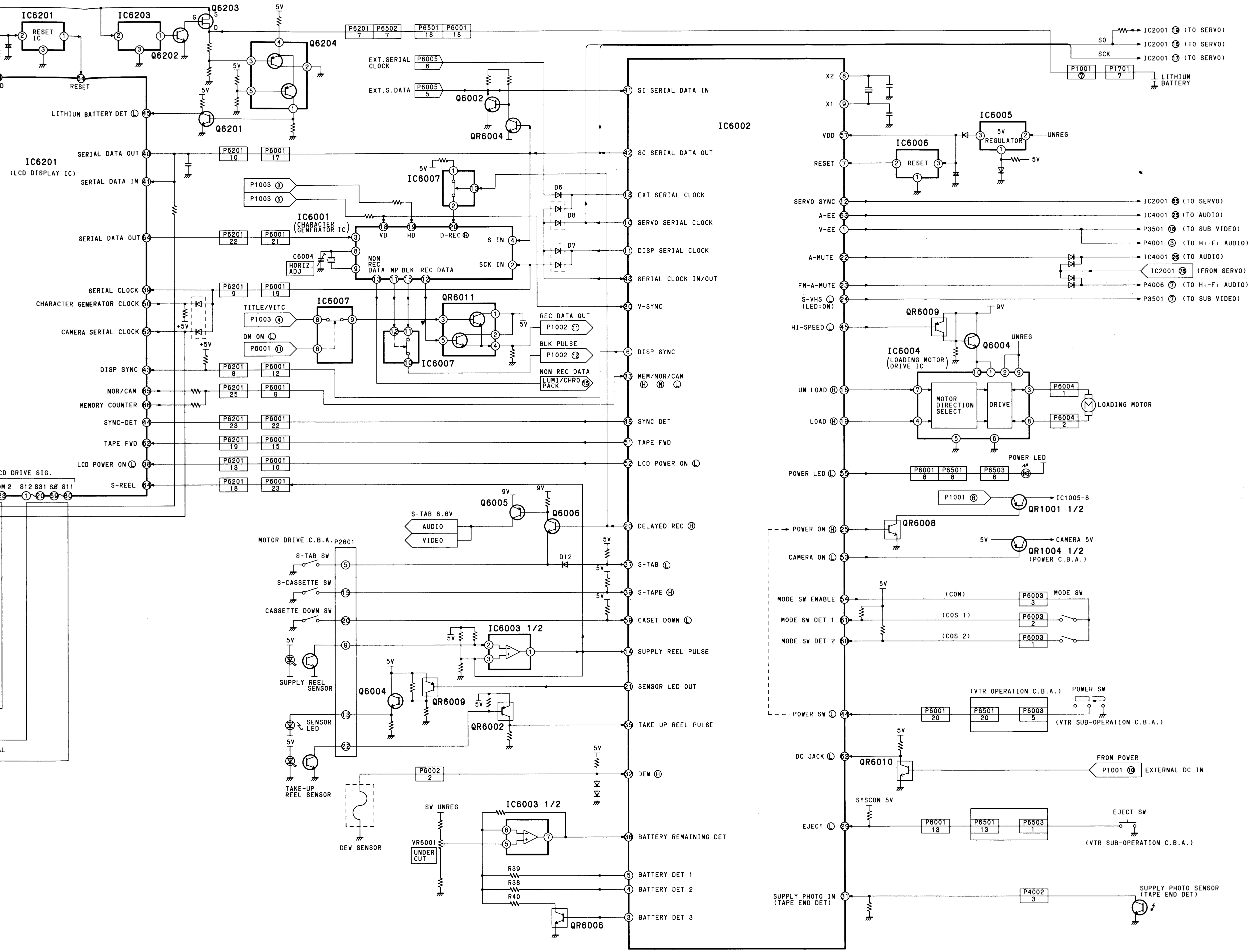

BATTERY
(+)
(−)
10V
DC JACK
F1501
(FUSE)
QR1001
POWER ON:ON
UNREG 10V
5V REGULATOR DRIVE CONDITION FEED BACK LINE
IC1001
REG.
DRIVE
DETECT
DRIVE
CONTROL
5V REG
DRIVER
REF
(1.2V)
ERROR
VCC
2.5V
V. REF GEN
2.5V
OSC
SAWTOOTH
R1011
1800
R1012
1800
REG.
DRIVE
DETECT
DRIVE
CONTROL
CAMERA
REG
DRIVER
REF
(1.6V)
94KHz
TO SERVO
TRANSFORMER DRIVE CONDITION FEED BACK LINE
QR1004, D1008
C1026, R1038
TRANS
DRIVE
PULSE
GENERATOR
DRIVE BIAS
(CAMERA 5V)
Q1005
TRANS
DRIVER
Q1001
9V REG
Q1003
9V REG
CONTROL
VR1003
REG.
9V
BASE CONTROL
FOR Q1001
BY REG 5V
Q1006
Q1007
5V REG
VR1001
REG
5V
D1007
5V,9V
DETECTOR
SAFETY
DEVICE
T1001
CAMERA
DRIVE VOLTAGE
REGULATOR
D1004, L1008
C1030, C1031
RECTIFIRE
(16V)
D1005, L1009
C1032, C1033
RECTIFIRE
(9V)
VR1002
CAM
9V
D1006, L1010
C1034, C1035
RECTIFIRE
(-8V)
REG 9V
EVF 5V
REG 5V
CAM PWR ON Ⓛ
FROM IC6001-17
Q1004
CAM PWR ON Ⓛ ON
CAM 5V
CAM 16V
CAM 9V
CAM -8V
R1007
15K
R1008
27K
POWER CONDITION NOMAL: Ⓛ
POWER CONDITION DOROPPED: Ⓗ
IC1005
IC1005
NORMAL 5V
REF (3.2V)
REF
(3.2V)
UNREG 10V
R1044
100K
R1045
100K
UNREG 10V
R1048
100K
R1049
47K
+5V
CAM
PWR
ON Ⓛ
QR1005
CAMERA POWER ON:ON
D1002
CAMERA
VOLTAGE
DETECTOR
SAFETY
DEVICE

Next Page:
SYSTEM CONTROL Section

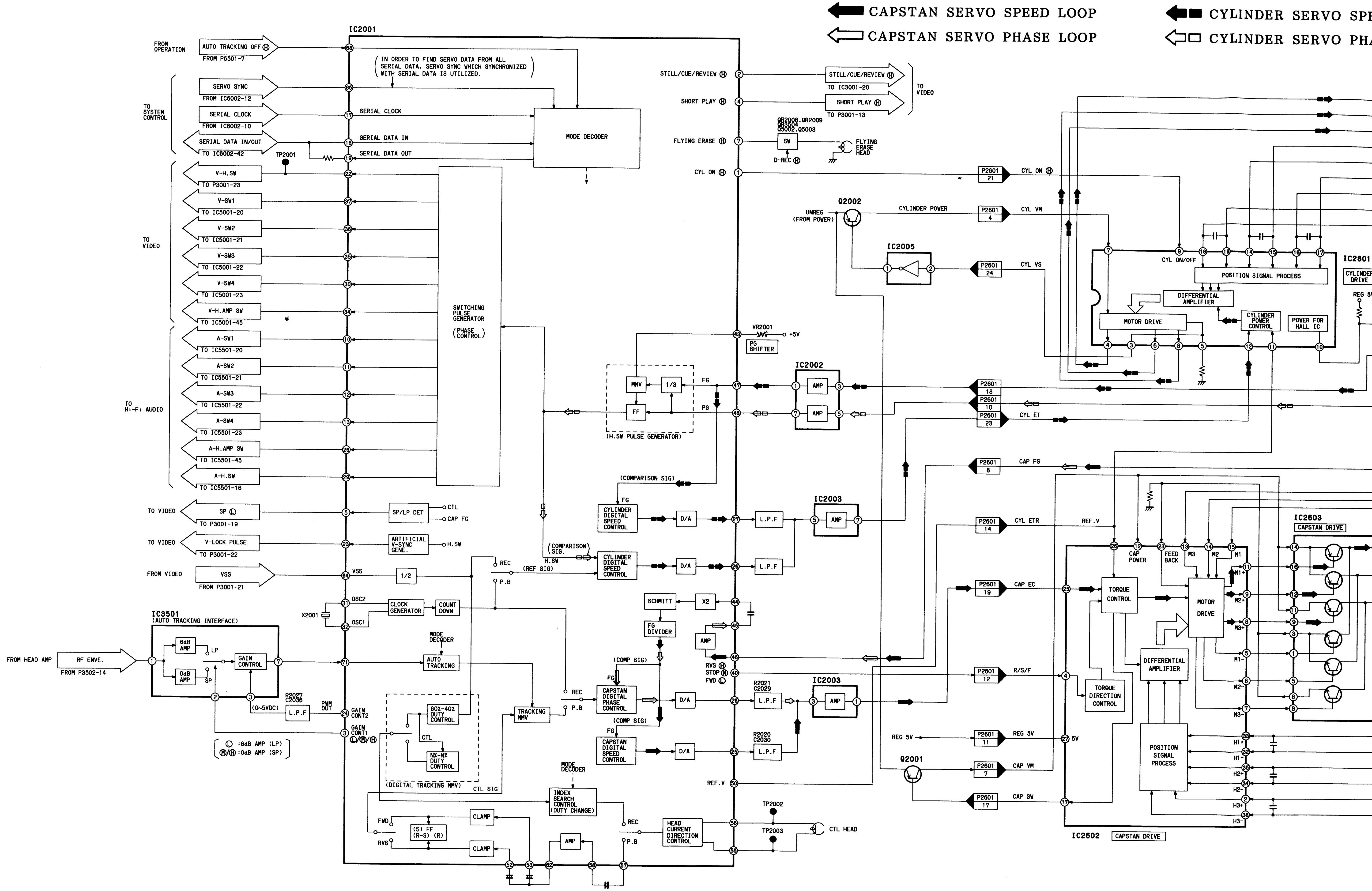
3-4. SYSTEM CONTROL BLOCK DIAGRAM

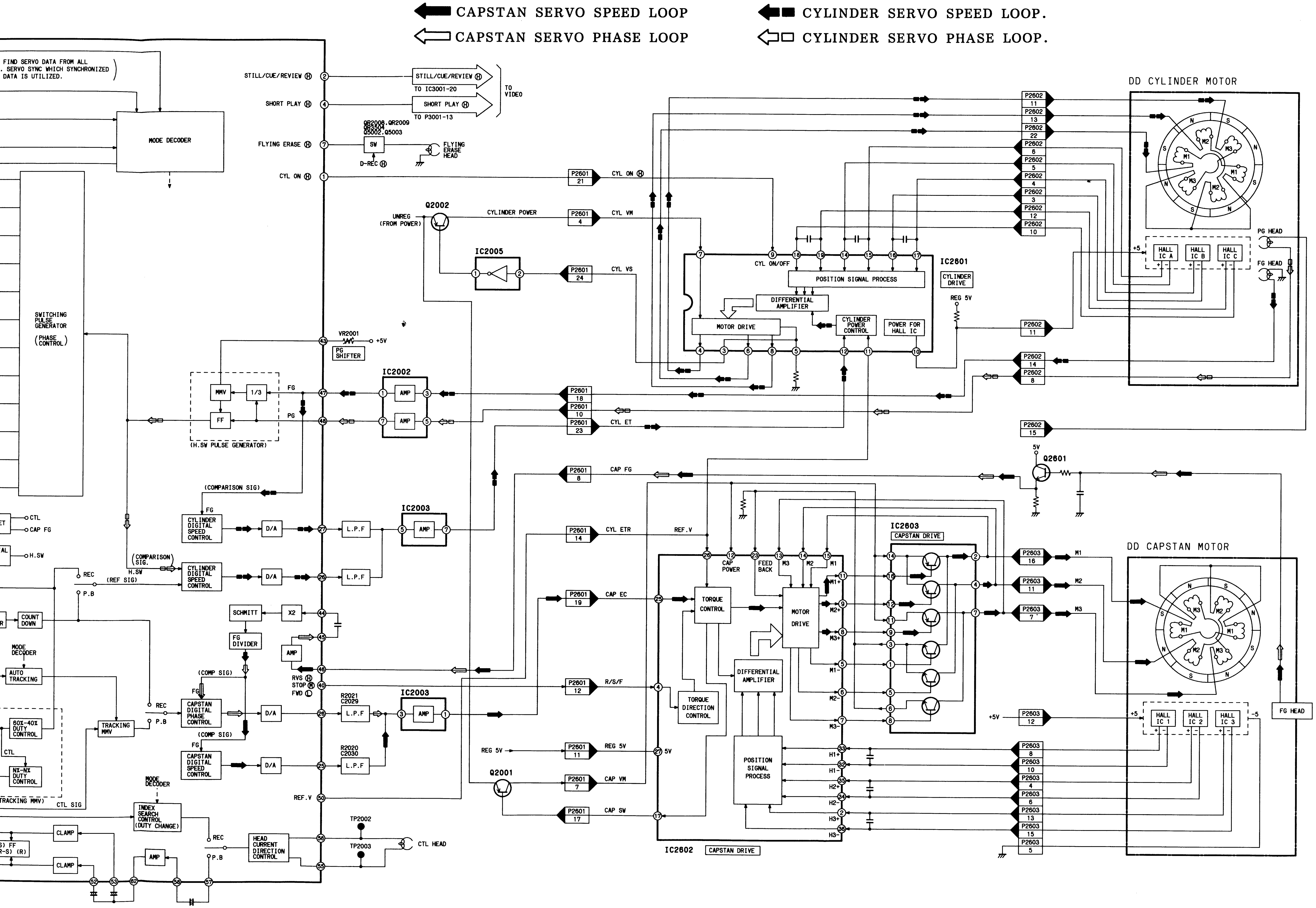

UNREG
IC6202
5V REGULATOR
IC6201
RESET IC
IC6203
Q6202
Q6203
Q6204
Q6201
VDD
RESET
LITHIUM BATTERY DET Ⓛ
SCAN 0
SCAN 1
SCAN 2
SCAN 3
SCAN 4
SCAN 5
SCAN 6
SCAN 7
IC6201 (LCD DISPLAY IC)
SERIAL DATA OUT
SERIAL DATA IN
SERIAL DATA OUT
SERIAL CLOCK
CHARACTER GENERATOR CLOCK
CAMERA SERIAL CLOCK
DISP SYNC
NOR/CAM
MEMORY COUNTER
SYNC-DET
TAPE FWD
LCD POWER ON Ⓛ
S-REEL
IN 0
IN 1
IN 2
IN 3
IN 4
CAM STB
P6201
P6502
LENGTH
OSD ON/OFF
PAUSE
FF
E ZOOM
STOP WATCH
A-DUB
REW
AUTO
TACK DOWN
CAM-SEARCH RVS
PLAY
STOP
C-RST
SET
TACK UP
CAM-SEARCH FWD
INSERT
CAM VTR
DATE
SHIFT
DM MEMORY
CG INPUT
COLOUR NEG/POS
DM DSP
DM PAGE
DM ON/OFF
LP SP
◎ :ON SUB OPERATION C.B.A.
○ :ON OPERATION C.B.A.
□ :ON DISPLAY C.B.A.
LCD DRIVE SIG.
COM 0 COM 2 S12 S31 S0 S11
TO CAMERA PROCESS
CAM STB
CAM SD
CAM SCK
P6202
ZM5-02
FOCUS MANUAL AUTO
WHITEBAL OUT IN
SHUTTER NOR 120 2500 1000 2000
TIMER OFF SELF 20S END INTERVAL
S-VHS OFF S-VHS
REC A.DUB INSERT
TAPE REMAIN MIN
COM 0 COM 1 COM 2
DISPLAY COMMON SIGNAL
SEG32 SEG22
SEG 1 SEG 21
DISPLAY SEGMENTS SIGNAL
P6201 7
P6502 7
P6501 18
P6001 18
EXT. SERIAL CLOCK
P6005 6
EXT. S. DATA
P6005 5
Q6002
QR6004
P1003 ③
P1003 ⑤
IC6007
IC6001 (CHARACTER GENERATOR IC)
VD
HD
D-REC Ⓗ
S IN
SCK IN
C6004 HORIZ. ADJ
NON REC DATA
MP
BLK
REC DATA
TITLE/VITC
P1003 ④
DM ON Ⓛ
P6001 ⑪
QR6011
REC DATA OUT
P1002 ⑪
BLK PULSE
P1002 ⑫
NON REC DATA
LUMI/CHRO PACK
D6
D7
D8
IC6002
SI SERIAL DATA IN
SO SERIAL DATA OUT
EXT SERIAL CLOCK
SERVO SERIAL CLOCK
DISP SERIAL CLOCK
SERIAL CLOCK IN/OUT
V-SYNC
DISP SYNC
MEM/NOR/CAM Ⓗ Ⓜ Ⓛ
SYNC DET
TAPE FWD
LCD POWER ON Ⓛ
DELAYED REC Ⓗ
S-TAB Ⓛ
S-TAPE Ⓗ
CASET DOWN Ⓛ
SUPPLY REEL PULSE
SENSOR LED OUT
TAKE-UP REEL PULSE
DEW Ⓗ
BATTERY REMAINING DET
BATTERY DET 1
BATTERY DET 2
BATTERY DET 3
S-TAB 8.6V
AUDIO
VIDEO
Q6005
Q6006
9V
D12
MOTOR DRIVE C.B.A.
P2601
S-TAB SW
S-CASSETTE SW
CASSETTE DOWN SW
IC6003 1/2
SUPPLY REEL SENSOR
Q6004
QR6009
QR6002
SENSOR LED
TAKE-UP REEL SENSOR
DEW SENSOR
P6002 2
SW UNREG
VR6001 UNDER CUT
R39
R38
R40
QR6006
X2
X1
VDD
RESET
IC6006
SERVO SYNC
A-EE
V-EE
A-MUTE
FM-A-MUTE
S-VHS Ⓛ (LED:ON)
HI-SPEED Ⓛ
QR6009
IC6004 (LOADING MOTOR DRIVE IC)
UN LOAD Ⓗ
LOAD Ⓗ
POWER LED Ⓛ
P6001 8
POWER ON Ⓗ
QR6008
CAMERA ON Ⓛ
MODE SW ENABLE
MODE SW DET 1
MODE SW DET 2
POWER SW Ⓛ
P6001 20
DC JACK Ⓛ
QR6010
SYSCON 5V
EJECT Ⓛ
P6001 13
SUPPLY PHOTO IN (TAPE END DET)
5V

GRAM


IC6201
RESET IC
IC6203
Q6203
Q6202
Q6204
Q6201
5V
RESET
LITHIUM BATTERY DET Ⓛ
IC6201
(LCD DISPLAY IC)
SERIAL DATA OUT
SERIAL DATA IN
SERIAL DATA OUT
SERIAL CLOCK
CHARACTER GENERATOR CLOCK
CAMERA SERIAL CLOCK
DISP SYNC
NOR/CAM
MEMORY COUNTER
SYNC-DET
TAPE FWD
LCD POWER ON Ⓛ
S-REEL
CD DRIVE SIG.
S12 S31 S8 S11
P6201
P6502
P6501
P6001
EXT.SERIAL CLOCK
EXT.S.DATA
P6005
Q6002
QR6004
P1003 ③
P1003 ⑤
IC6007
IC6001
(CHARACTER GENERATOR IC)
VD
HD
D-REC Ⓗ
S IN
SCK IN
C6004
HORIZ. ADJ
NON REC DATA
MP
BLK
REC DATA
TITLE/VITC
P1003 ④
DM ON Ⓛ
P6001 ⑪
QR6011
REC DATA OUT
P1002 ⑪
BLK PULSE
P1002 ⑫
NON REC DATA
LUMI/CHRO PACK
P1002 ⑬
D6
D7
D8
+5V
IC6002
SI SERIAL DATA IN
SO SERIAL DATA OUT
EXT SERIAL CLOCK
SERVO SERIAL CLOCK
DISP SERIAL CLOCK
SERIAL CLOCK IN/OUT
V-SYNC
DISP SYNC
MEM/NOR/CAM Ⓗ Ⓜ Ⓛ
SYNC DET
TAPE FWD
LCD POWER ON Ⓛ
DELAYED REC Ⓗ
S-TAB Ⓛ
S-TAPE Ⓗ
CASET DOWN Ⓛ
SUPPLY REEL PULSE
SENSOR LED OUT
TAKE-UP REEL PULSE
DEW Ⓗ
BATTERY REMAINING DET
BATTERY DET 1
BATTERY DET 2
BATTERY DET 3
9V
Q6005
Q6006
S-TAB 8.6V
AUDIO
VIDEO
MOTOR DRIVE C.B.A.
P2601
S-TAB SW
S-CASSETTE SW
CASSETTE DOWN SW
D12
IC6003 1/2
SUPPLY REEL SENSOR
Q6004
QR6009
QR6002
SENSOR LED
TAKE-UP REEL SENSOR
P6002
DEW SENSOR
SW UNREG
VR6001
UNDER CUT
R39
R38
R40
QR6006
X2
X1
VDD
RESET
IC6006
IC6005
5V REGULATOR
UNREG
SO
SCK
IC2001 ⑲ (TO SERVO)
IC2001 ⑱ (TO SERVO)
IC2001 ⑰ (TO SERVO)
P1001 ⑦
P1701 7
LITHIUM BATTERY
SERVO SYNC
A-EE
V-EE
A-MUTE
FM-A-MUTE
S-VHS Ⓛ (LED:ON)
HI-SPEED Ⓛ
IC2001 ㊷ (TO SERVO)
IC4001 ㉕ (TO AUDIO)
P3501 ⑬ (TO SUB VIDEO)
P4001 ③ (TO Hi-Fi AUDIO)
IC4001 ㉖ (TO AUDIO)
IC2001 ㊳ (FROM SERVO)
P4006 ⑦ (TO Hi-Fi AUDIO)
P3501 ⑦ (TO SUB VIDEO)
QR6009
Q6004
IC6004
(LOADING MOTOR DRIVE IC)
MOTOR DIRECTION SELECT
DRIVE
UN LOAD Ⓗ
LOAD Ⓗ
P6004
LOADING MOTOR
POWER LED Ⓛ
POWER LED
P6503
P1001 ⑥
IC1005-8
QR1001 1/2
POWER ON Ⓗ
QR6008
CAMERA ON Ⓛ
CAMERA 5V
QR1004 1/2
(POWER C.B.A.)
MODE SW ENABLE
MODE SW DET 1
MODE SW DET 2
(COM)
(COS 1)
(COS 2)
P6003
MODE SW
(VTR OPERATION C.B.A.)
POWER SW
POWER SW Ⓛ
(VTR SUB-OPERATION C.B.A.)
DC JACK Ⓛ
QR6010
FROM POWER
P1001 ⑬
EXTERNAL DC IN
SYSCON 5V
EJECT Ⓛ
EJECT SW
(VTR SUB-OPERATION C.B.A.)
SUPPLY PHOTO IN (TAPE END DET)
P4002
SUPPLY PHOTO SENSOR (TAPE END DET)

3-5. SERVO BLOCK DIAGRAM


CAPSTAN SERVO SPEED LOOP
CAPSTAN SERVO PHASE LOOP
CYLINDER SERVO SPE
CYLINDER SERVO PH
IC2001
FROM OPERATION
AUTO TRACKING OFF Ⓗ
FROM P6501-7
IN ORDER TO FIND SERVO DATA FROM ALL SERIAL DATA. SERVO SYNC WHICH SYNCHRONIZED WITH SERIAL DATA IS UTILIZED.
TO SYSTEM CONTROL
SERVO SYNC
FROM IC6002-12
SERIAL CLOCK
FROM IC6002-10
SERIAL DATA IN/OUT
TO IC6002-42
TP2001
SERIAL CLOCK
SERIAL DATA IN
SERIAL DATA OUT
MODE DECODER
TO VIDEO
V-H.SW
TO P3001-23
V-SW1
TO IC5001-20
V-SW2
TO IC5001-21
V-SW3
TO IC5001-22
V-SW4
TO IC5001-23
V-H.AMP SW
TO IC5001-45
TO Hi-Fi AUDIO
A-SW1
TO IC5501-20
A-SW2
TO IC5501-21
A-SW3
TO IC5501-22
A-SW4
TO IC5501-23
A-H.AMP SW
TO IC5501-45
A-H.SW
TO IC5501-16
SWITCHING PULSE GENERATOR
(PHASE CONTROL)
TO VIDEO
SP Ⓛ
TO P3001-19
SP/LP DET
CTL
CAP FG
TO VIDEO
V-LOCK PULSE
TO P3001-22
ARTIFICIAL V-SYNC GENE.
H.SW
FROM VIDEO
VSS
FROM P3001-21
1/2
REC
P.B
(REF SIG)
X2001
OSC2
OSC1
CLOCK GENERATOR
COUNT DOWN
IC3501
(AUTO TRACKING INTERFACE)
FROM HEAD AMP
RF ENVE.
FROM P3502-14
6dB AMP
0dB AMP
LP
SP
GAIN CONTROL
R2027 C2036
(0~5VDC)
L.P.F
PWM OUT
GAIN CONT2
GAIN CONT1 Ⓛ/Ⓜ/Ⓗ
Ⓛ :6dB AMP (LP)
Ⓜ/Ⓗ :0dB AMP (SP)
MODE DECODER
AUTO TRACKING
60%-40% DUTY CONTROL
CTL
N%-N% DUTY CONTROL
(DIGITAL TRACKING MMV)
CTL SIG
TRACKING MMV
REC
P.B
MODE DECODER
INDEX SEARCH CONTROL (DUTY CHANGE)
FWD
(S) FF (R-S) (R)
RVS
CLAMP
CLAMP
AMP
REC
P.B
HEAD CURRENT DIRECTION CONTROL
TP2002
TP2003
CTL HEAD
REF.V
MMV
1/3
FF
FG
PG
(H.SW PULSE GENERATOR)
(COMPARISON SIG)
FG
CYLINDER DIGITAL SPEED CONTROL
(COMPARISON SIG.)
H.SW
CYLINDER DIGITAL SPEED CONTROL
D/A
D/A
L.P.F
L.P.F
SCHMITT
X2
FG DIVIDER
AMP
(COMP SIG)
FG
CAPSTAN DIGITAL PHASE CONTROL
(COMP SIG)
FG
CAPSTAN DIGITAL SPEED CONTROL
D/A
D/A
RVS Ⓗ
STOP Ⓜ
FWD Ⓛ
R2021 C2029
R2020 C2030
L.P.F
L.P.F
IC2003
AMP
IC2003
AMP
VR2001
+5V
PG SHIFTER
IC2002
AMP
AMP
STILL/CUE/REVIEW Ⓗ
SHORT PLAY Ⓗ
FLYING ERASE Ⓗ
CYL ON Ⓗ
STILL/CUE/REVIEW Ⓗ
TO IC3001-20
SHORT PLAY Ⓗ
TO P3001-13
TO VIDEO
QR2008.QR2009 Q5004 Q5002.Q5003
SW
D-REC Ⓗ
FLYING ERASE HEAD
P2601 21
CYL ON Ⓗ
Q2002
UNREG (FROM POWER)
CYLINDER POWER
P2601 4
CYL VM
IC2005
P2601 24
CYL VS
P2601 18
P2601 10
P2601 23
CYL ET
P2601 8
CAP FG
P2601 14
CYL ETR
REF.V
P2601 19
CAP EC
P2601 12
R/S/F
REG 5V
P2601 11
REG 5V
Q2001
P2601 7
CAP VM
P2601 17
CAP SW
CYL ON/OFF
POSITION SIGNAL PROCESS
DIFFERENTIAL AMPLIFIER
MOTOR DRIVE
CYLINDER POWER CONTROL
POWER FOR HALL IC
IC2601
CYLINDER DRIVE
REG 5V
IC2603
CAPSTAN DRIVE
CAP POWER
FEED BACK
M3
M2
M1
TORQUE CONTROL
MOTOR DRIVE
DIFFERENTIAL AMPLIFIER
TORQUE DIRECTION CONTROL
POSITION SIGNAL PROCESS
5V
M1+
M2+
M3+
M1-
M2-
M3-
H1+
H1-
H2+
H2-
H3+
H3-
IC2602
CAPSTAN DRIVE

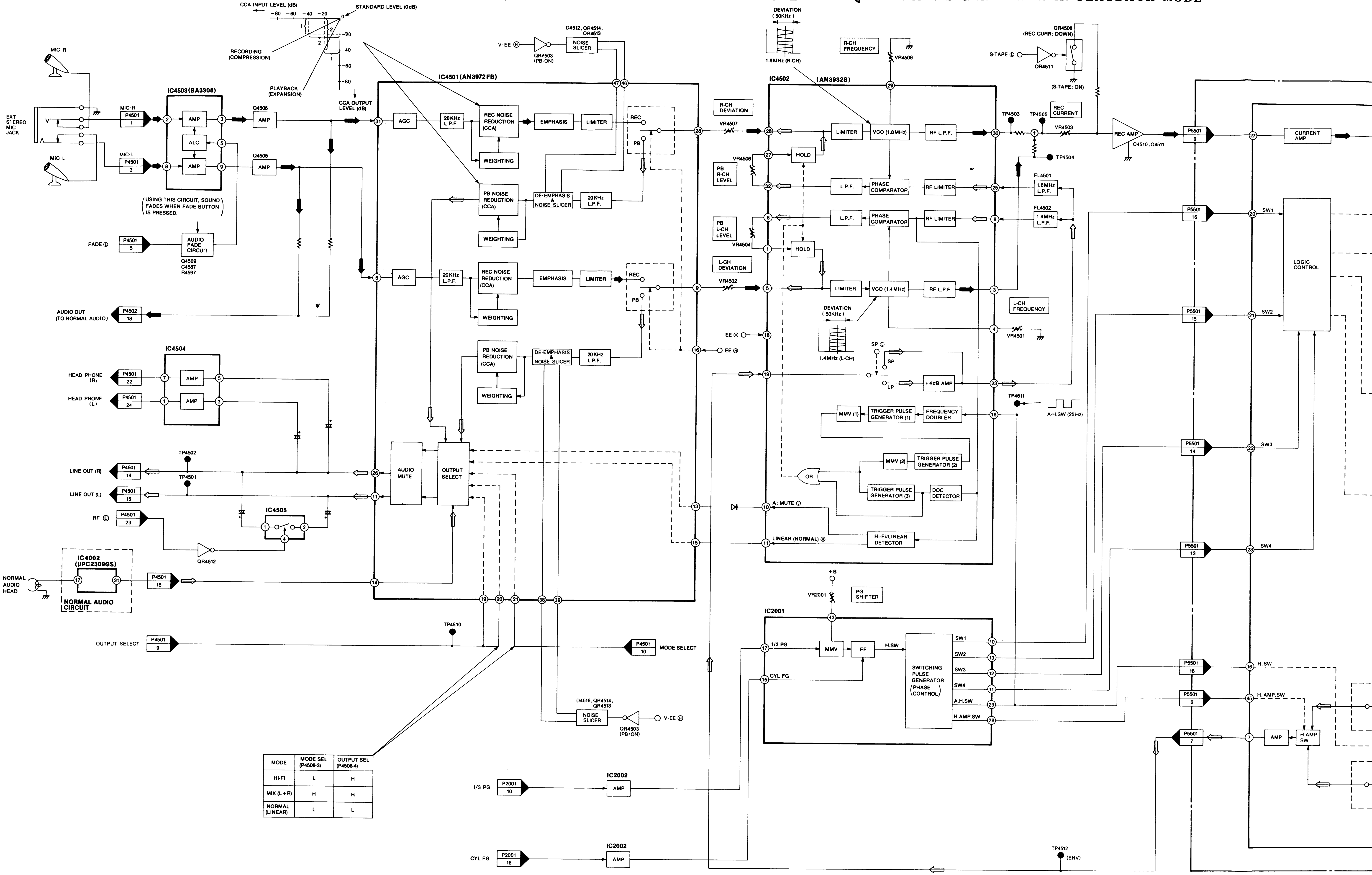

CAPSTAN SERVO SPEED LOOP
CAPSTAN SERVO PHASE LOOP
CYLINDER SERVO SPEED LOOP.
CYLINDER SERVO PHASE LOOP.
FIND SERVO DATA FROM ALL
. SERVO SYNC WHICH SYNCHRONIZED
DATA IS UTILIZED.
MODE DECODER
STILL/CUE/REVIEW Ⓗ
SHORT PLAY Ⓗ
FLYING ERASE Ⓗ
CYL ON Ⓗ
TO IC3001-20
TO P3001-13
TO VIDEO
QR2008,QR2009
Q5004
Q5002,Q5003
SW
D-REC Ⓗ
FLYING ERASE HEAD
SWITCHING PULSE GENERATOR (PHASE CONTROL)
Q2002
UNREG (FROM POWER)
CYLINDER POWER
IC2005
P2601 21
P2601 4
P2601 24
CYL VM
CYL VS
VR2001
+5V
PG SHIFTER
IC2002
AMP
MMV
1/3
FF
FG
PG
(H.SW PULSE GENERATOR)
P2601 18
P2601 10
P2601 23
CYL ET
(COMPARISON SIG)
CYLINDER DIGITAL SPEED CONTROL
CYLINDER DIGITAL PHASE CONTROL
(COMPARISON SIG.)
H.SW
(REF SIG)
REC
P.B
D/A
L.P.F
IC2003
P2601 8
CAP FG
P2601 14
CYL ETR
REF.V
P2601 19
CAP EC
SCHMITT
X2
FG DIVIDER
AMP
RVS Ⓗ
STOP Ⓗ
FWD Ⓛ
(COMP SIG)
CAPSTAN DIGITAL PHASE CONTROL
CAPSTAN DIGITAL SPEED CONTROL
R2021 C2029
R2020 C2030
P2601 12
R/S/F
REG 5V
P2601 11
Q2001
P2601 7
CAP VM
P2601 17
CAP SW
TP2002
TP2003
CTL HEAD
HEAD CURRENT DIRECTION CONTROL
COUNT DOWN
MODE DECODER
AUTO TRACKING
60%-40% DUTY CONTROL
NX-NX DUTY CONTROL
TRACKING MMV
(TRACKING MMV)
CTL SIG
INDEX SEARCH CONTROL (DUTY CHANGE)
CLAMP
AMP
S) FF
R-S) (R)
CTL
CAP FG
H.SW
DD CYLINDER MOTOR
P2602 11
P2602 13
P2602 22
P2602 6
P2602 5
P2602 4
P2602 3
P2602 12
P2602 10
P2602 14
P2602 8
P2602 15
CYL ON/OFF
POSITION SIGNAL PROCESS
DIFFERENTIAL AMPLIFIER
MOTOR DRIVE
CYLINDER POWER CONTROL
POWER FOR HALL IC
IC2601
CYLINDER DRIVE
REG 5V
HALL IC A
HALL IC B
HALL IC C
PG HEAD
FG HEAD
M1
M2
M3
N
S
5V
Q2601
IC2603
CAPSTAN DRIVE
CAP POWER
FEED BACK
TORQUE CONTROL
MOTOR DRIVE
DIFFERENTIAL AMPLIFIER
TORQUE DIRECTION CONTROL
POSITION SIGNAL PROCESS
M1+
M2+
M3+
M1-
M2-
M3-
H1+
H1-
H2+
H2-
H3+
H3-
IC2602
CAPSTAN DRIVE
DD CAPSTAN MOTOR
P2603 16
P2603 11
P2603 7
P2603 12
P2603 8
P2603 10
P2603 4
P2603 6
P2603 13
P2603 15
P2603 5
+5V
HALL IC 1
HALL IC 2
HALL IC 3
FG HEAD

Next Page:
Hi-Fi AUDIO Section

3-6. Hi-Fi AUDIO BLOCK DIAGRAM

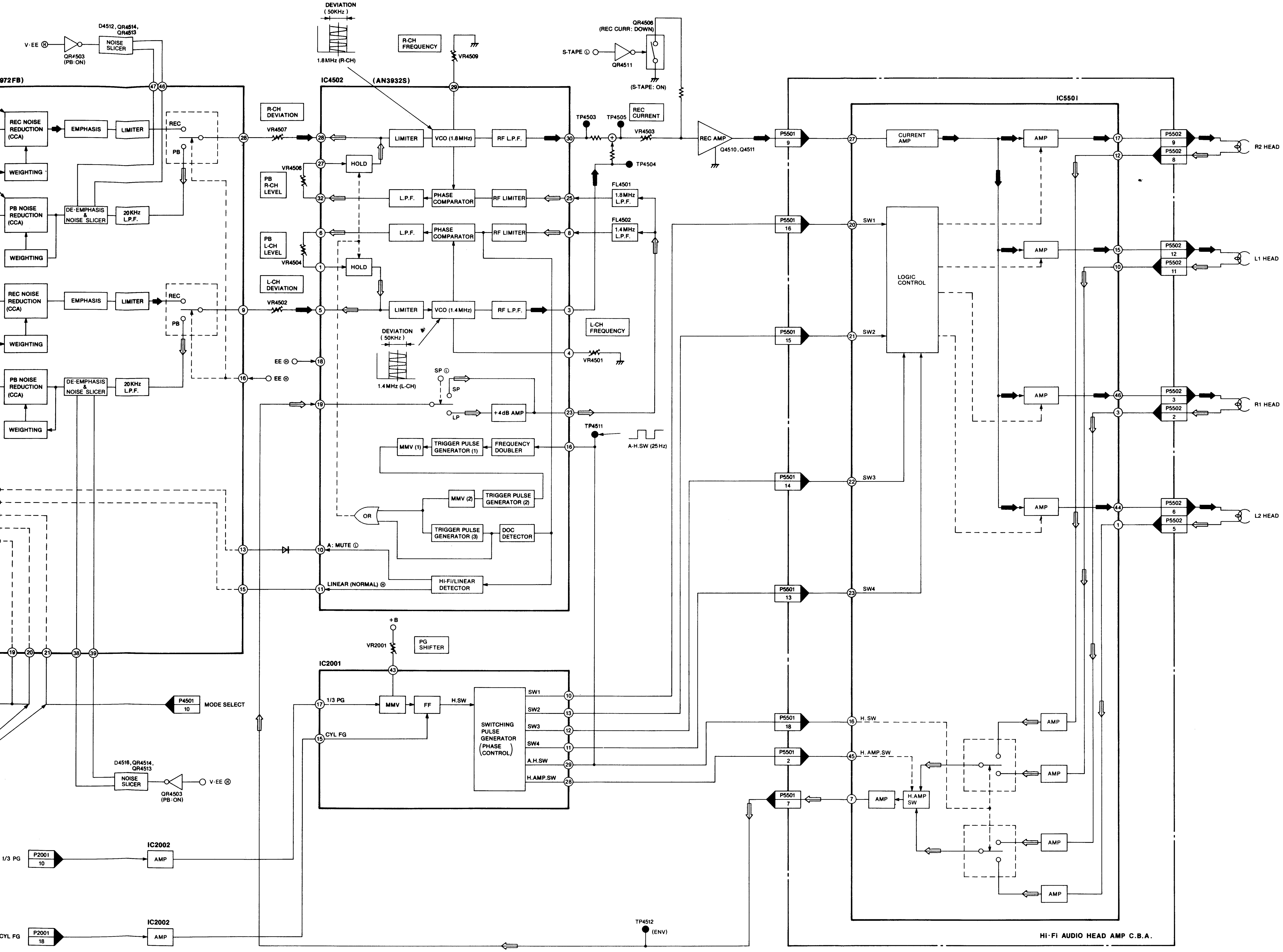
MAIN SIGNAL PATH IN REC MODE

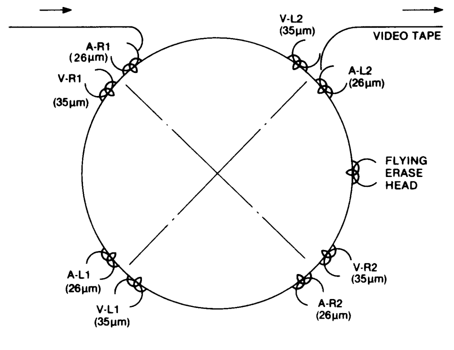
MAIN SIGNAL PATH IN PLAYBACK MODE


CCA INPUT LEVEL (dB)
-80 -60 -40 -20 0
STANDARD LEVEL (0dB)
RECORDING (COMPRESSION)
PLAYBACK (EXPANSION)
CCA OUTPUT LEVEL (dB)
MIC-R
MIC-L
EXT STEREO MIC JACK
IC4503(BA3308)
AMP
ALC
P4501
Q4506
Q4505
(USING THIS CIRCUIT, SOUND FADES WHEN FADE BUTTON IS PRESSED.)
FADE Ⓛ
AUDIO FADE CIRCUIT
Q4509 C4587 R4597
AUDIO OUT (TO NORMAL AUDIO)
P4502
IC4504
HEAD PHONE (R)
HEAD PHONE (L)
TP4502
TP4501
LINE OUT (R)
LINE OUT (L)
RF Ⓛ
IC4505
QR4512
IC4002 (μPC2309GS)
NORMAL AUDIO CIRCUIT
NORMAL AUDIO HEAD
OUTPUT SELECT
TP4510
MODE SELECT
V-EE Ⓗ
QR4503 (PB:ON)
D4512, QR4514, QR4513
NOISE SLICER
IC4501(AN3972FB)
AGC
20KHz L.P.F.
REC NOISE REDUCTION (CCA)
EMPHASIS
LIMITER
WEIGHTING
PB NOISE REDUCTION (CCA)
DE-EMPHASIS & NOISE SLICER
REC
PB
AUDIO MUTE
OUTPUT SELECT
D4516, QR4514, QR4513
V-EE Ⓗ
EE Ⓗ
DEVIATION (50KHz)
1.8MHz (R-CH)
1.4MHz (L-CH)
R-CH FREQUENCY
VR4509
R-CH DEVIATION
VR4507
IC4502 (AN3932S)
PB R-CH LEVEL
VR4506
PB L-CH LEVEL
VR4504
L-CH DEVIATION
VR4502
HOLD
LIMITER
VCO (1.8MHz)
VCO (1.4MHz)
RF L.P.F.
L.P.F.
PHASE COMPARATOR
RF LIMITER
SP Ⓛ
SP
LP
+4dB AMP
MMV (1)
TRIGGER PULSE GENERATOR (1)
FREQUENCY DOUBLER
MMV (2)
TRIGGER PULSE GENERATOR (2)
OR
TRIGGER PULSE GENERATOR (3)
DOC DETECTOR
A: MUTE Ⓛ
LINEAR (NORMAL) Ⓗ
Hi-Fi/LINEAR DETECTOR
L-CH FREQUENCY
VR4501
TP4503
TP4505
TP4504
REC CURRENT
VR4503
FL4501 1.8MHz L.P.F.
FL4502 1.4MHz L.P.F.
TP4511
A.H.SW (25Hz)
QR4506 (REC CURR: DOWN)
S-TAPE Ⓛ
QR4511
(S-TAPE: ON)
REC AMP
Q4510, Q4511
P5501
CURRENT AMP
SW1
SW2
SW3
SW4
LOGIC CONTROL
H.SW
H.AMP.SW
AMP
H.AMP SW
+B
VR2001
PG SHIFTER
IC2001
1/3 PG
CYL FG
MMV
FF
H.SW
SWITCHING PULSE GENERATOR (PHASE CONTROL)
A.H.SW
H.AMP.SW
IC2002
1/3 PG
CYL FG
P2001
TP4512
(ENV)

MODE	MODE SEL (P4506-3)	OUTPUT SEL (P4506-4)
Hi-Fi	L	H
MIX (L+R)	H	H
NORMAL (LINEAR)	L	L

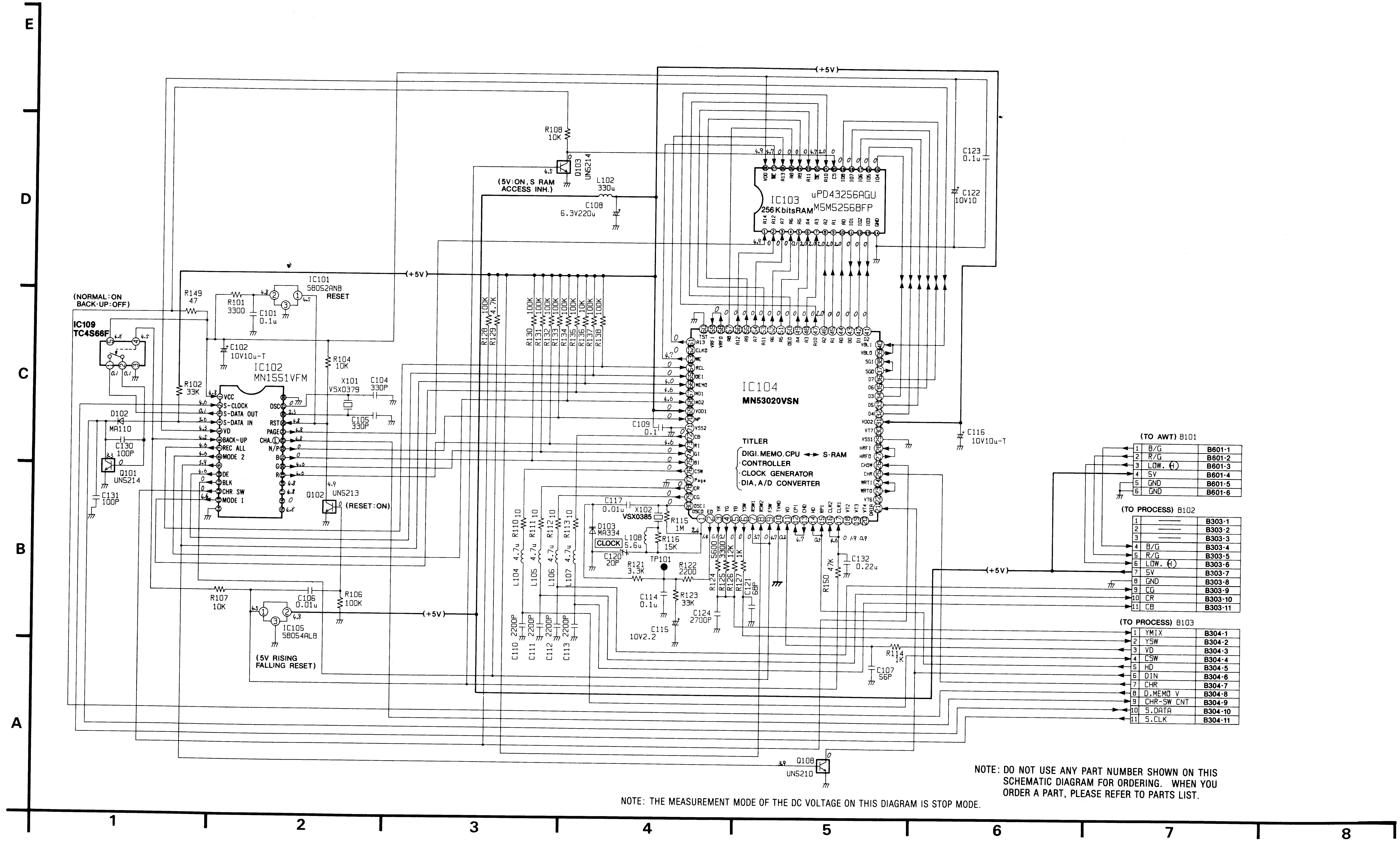
MAIN SIGNAL PATH IN REC MODE   MAIN SIGNAL PATH IN PLAYBACK MODE


V-EE Ⓡ
QR4503 (PB:ON)
NOISE SLICER
D4512, QR4514, QR4513
972FB)
REC NOISE REDUCTION (CCA)
EMPHASIS
LIMITER
WEIGHTING
PB NOISE REDUCTION (CCA)
DE-EMPHASIS & NOISE SLICER
20KHz L.P.F.
REC
PB
DEVIATION (50KHz)
1.8MHz (R-CH)
IC4502
(AN3932S)
R-CH FREQUENCY
VR4509
R-CH DEVIATION
VR4507
PB R-CH LEVEL
VR4506
LIMITER
VCO (1.8MHz)
RF L.P.F.
HOLD
L.P.F.
PHASE COMPARATOR
RF LIMITER
PB L-CH LEVEL
VR4504
L-CH DEVIATION
VR4502
VCO (1.4MHz)
DEVIATION (50KHz)
1.4MHz (L-CH)
L-CH FREQUENCY
VR4501
EE Ⓡ
SP Ⓛ
SP
LP
+4dB AMP
MMV (1)
TRIGGER PULSE GENERATOR (1)
FREQUENCY DOUBLER
MMV (2)
TRIGGER PULSE GENERATOR (2)
OR
TRIGGER PULSE GENERATOR (3)
DOC DETECTOR
A: MUTE Ⓛ
LINEAR (NORMAL) Ⓗ
Hi-Fi/LINEAR DETECTOR
TP4511
A.H.SW (25Hz)
QR4506 (REC CURR: DOWN)
S-TAPE Ⓛ
QR4511
(S-TAPE: ON)
TP4503
TP4505
REC CURRENT
VR4503
TP4504
REC AMP
Q4510, Q4511
FL4501
1.8MHz L.P.F.
FL4502
1.4MHz L.P.F.
P5501
IC5501
CURRENT AMP
AMP
LOGIC CONTROL
SW1
SW2
SW3
SW4
P5502
R2 HEAD
L1 HEAD
R1 HEAD
L2 HEAD
H.SW
H.AMP.SW
H.AMP SW
HI-FI AUDIO HEAD AMP C.B.A.
+B
VR2001
PG SHIFTER
IC2001
1/3 PG
CYL FG
MMV
FF
H.SW
SWITCHING PULSE GENERATOR (PHASE CONTROL)
A.H.SW
H.AMP.SW
P4501
MODE SELECT
D4516, QR4514, QR4513
QR4503 (PB:ON)
1/3 PG
P2001
IC2002
AMP
CYL FG
TP4512
(ENV)


VIDEO TAPE
A-R1 (26μm)
V-R1 (35μm)
V-L2 (35μm)
A-L2 (26μm)
FLYING ERASE HEAD
A-L1 (26μm)
V-L1 (35μm)
V-R2 (35μm)
A-R2 (26μm)

9-HEAD SYSTEM

3-7. DIGITAL MEMORY SCHEMATIC DIAGRAM



A
B
C
D
E
1
2
3
4
5
6
7
8
(+5V)
R108 10K
Q103 UN5214
(5V:ON, S RAM ACCESS INH.)
L102 330u
C108 6.3V220u
IC103 uPD43256AGU MSM5256BFP
256KbitsRAM
C123 0.1u
C122 10V10
IC101 S8052ANB RESET
R149 47
R101 3300
C101 0.1u
(NORMAL:ON BACK-UP:OFF)
IC109 TC4S66F
C102 10V10u-T
IC102 MN1551VFM
R104 10K
R102 33K
X101 VSX0379
C104 330P
C105 330P
VCC
S-CLOCK
S-DATA OUT
S-DATA IN
VD
BACK-UP
REC ALL
MODE 2
DE
BLK
CHR SW
MODE 1
OSC
RST
PAGE
CHA.Ⓛ
N/P
B
G
R
D102 MA110
C130 100P
Q101 UN5214
C131 100P
Q102 UN5213 (RESET:ON)
R128 100K
R129 4.7K
R130 100K
R131 100K
R132 100K
R133 100K
R134 100K
R135 100K
R136 100K
R137 10K
R138 100K
IC104 MN53020VSN
TITLER
DIGI.MEMO.CPU ◄► S-RAM
·CONTROLLER
·CLOCK GENERATOR
·DIA, A/D CONVERTER
C109 0.1
C117 0.01u
X102 VSX0385
R115 1M
R116 15K
D103 MA334
L108 5.6u
CLOCK
C120 20P
R121 3.3K
TP101
R122 2200
R124 5600
R125 3300
R126 12K
R127 1K
C121 68P
C114 0.1u
R123 33K
C124 2700P
C115 10V2.2
R150 47K
C132 0.22u
C116 10V10u-T
R110 10
R111 10
R112 10
R113 10
L104 4.7u
L105 4.7u
L106 4.7u
L107 4.7u
C110 2200P
C111 2200P
C112 2200P
C113 2200P
R107 10K
C106 0.01u
R106 100K
IC105 S8054ALB
(5V RISING FALLING RESET)
R114 1K
C107 56P
Q108 UN5210
(TO AWT) B101
1 B/G B601-1
2 R/G B601-2
3 LOW. Ⓗ B601-3
4 5V B601-4
5 GND B601-5
6 GND B601-6
(TO PROCESS) B102
1 B303-1
2 B303-2
3 B303-3
4 B/G B303-4
5 R/G B303-5
6 LOW. Ⓗ B303-6
7 5V B303-7
8 GND B303-8
9 CG B303-9
10 CR B303-10
11 CB B303-11
(TO PROCESS) B103
1 YMIX B304-1
2 YSW B304-2
3 VD B304-3
4 CSW B304-4
5 HD B304-5
6 DIN B304-6
7 CHR B304-7
8 D.MEMO V B304-8
9 CHR-SW CNT B304-9
10 S.DATA B304-10
11 S.CLK B304-11

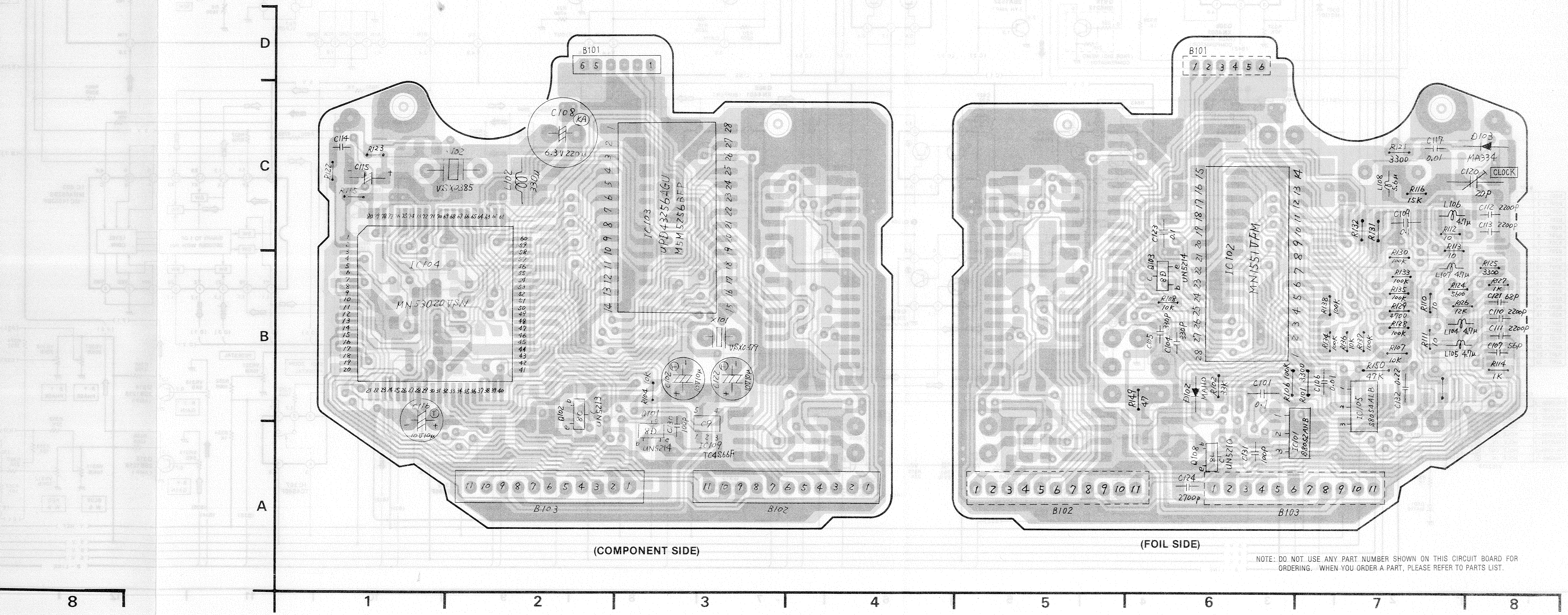
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

3-8. DIGITAL MEMORY C.B.A. (VEP21095B)

DIGITAL MEMORY C.B.A.	
Transistor	
Q101	B-3 Ⓒ
Q102	B-2 Ⓒ
Q103	B-6 Ⓒ
Q108	A-6 Ⓕ
Integrated Circuit	
IC101	A-6 Ⓕ
IC102	C-7 Ⓕ
IC103	C-3 Ⓒ
IC104	B-1 Ⓒ
IC105	B-7 Ⓕ
IC109	A-3 Ⓒ
Adjustment	
C120	C-8 Ⓕ
Connector	
B101	D-2 Ⓒ
B101	D-6 Ⓕ
B102	A-3 Ⓒ
B102	A-5 Ⓕ
B103	A-2 Ⓒ
B103	A-6 Ⓕ

ADDRESS INFORMATION
Ⓒ...COMPONENT SIDE
Ⓕ...FOIL SIDE


D
C
B
A
1
2
3
4
5
6
7
8
B101
C108
6.3V 220μ
C114
R123
R122
C115
X102
VSX2385
L102
330μ
R115
IC103
UPD43256AGU
M5M5256BFP
IC104
MN53020VSN
X101
VSX2379
R104 10K
C122
C121
C116
Q102
UN5213
Q101
UN5214
C130
IC109
TC4S66F
B103
B102
IC102
MN1551TAM
Q103
UN5214
C123
R108 10K
C105
C104
R149
D102
MA110
R102
C101
R106 100K
R101 3300
C106
IC101
S8082ANB
Q108
UN5210
C131
C124 2700p
IC105
S8054ALB
C132
R150 47K
R107 10K
R121 3300
C117 0.01
D103
MA334
C120 20P
CLOCK
L108
R116 15K
C109
L106 4.7μ
C112 2200P
C113 2200P
R112
R113
R130 100K
R133 100K
R135 100K
R129 4700
R128 100K
R125 3300
R127 1K
R124 5600
R126 12K
C127 68P
C110 2200P
C111 2200P
C107 56P
L107 4.7μ
L104 4.7μ
L105 4.7μ
R110
R111
R114 1K
R138 100K
R132
R131

(COMPONENT SIDE)

(FOIL SIDE)

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS CIRCUIT BOARD FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

3-9. PROCESS SCHEMATIC DIAGRAM

LUMINANCE SIGNAL

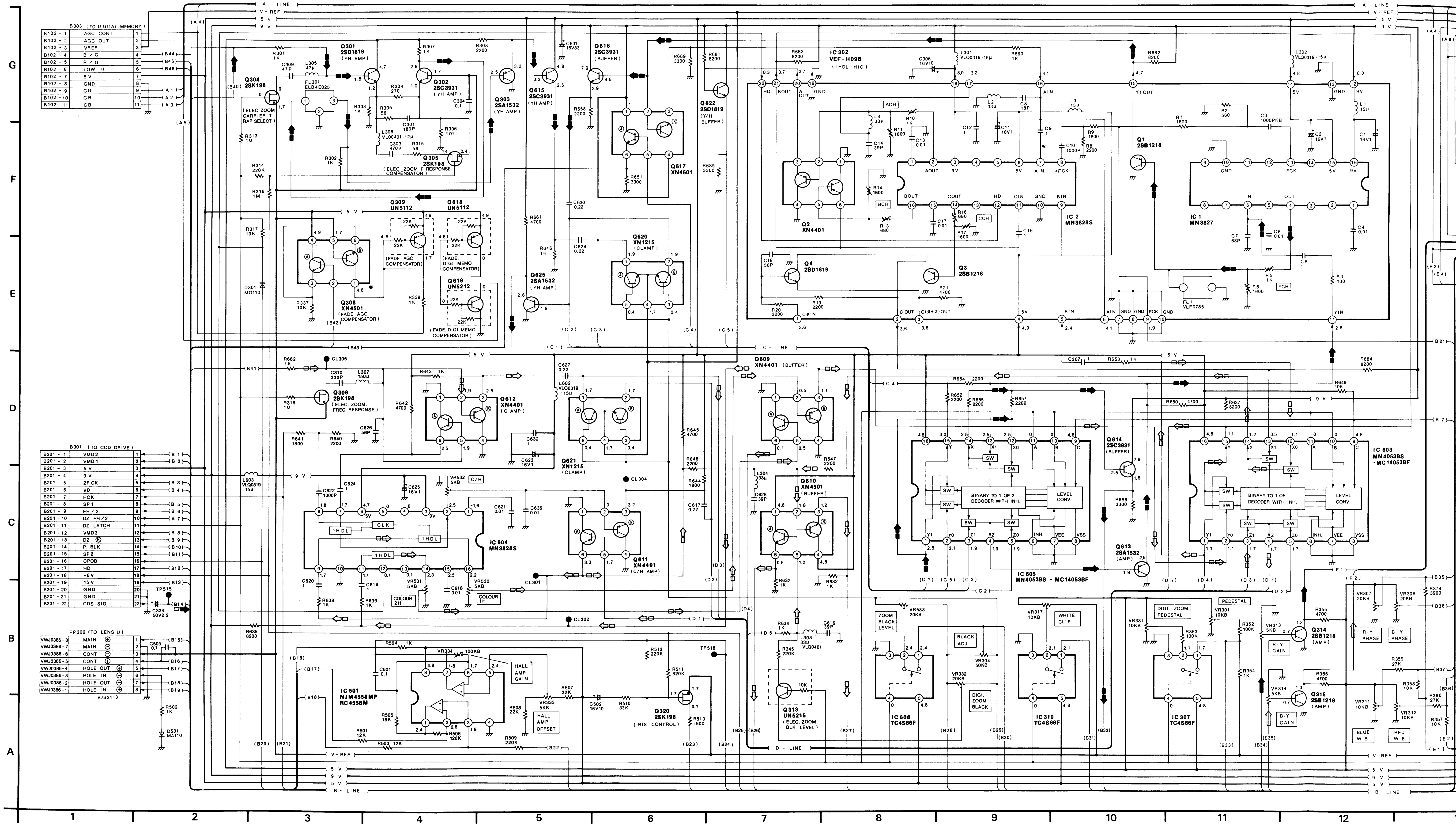
PRE VIDEO SIGNAL

CHROMINANCE SIGNAL

B-Y/R-Y COMPOSITE SIGNAL

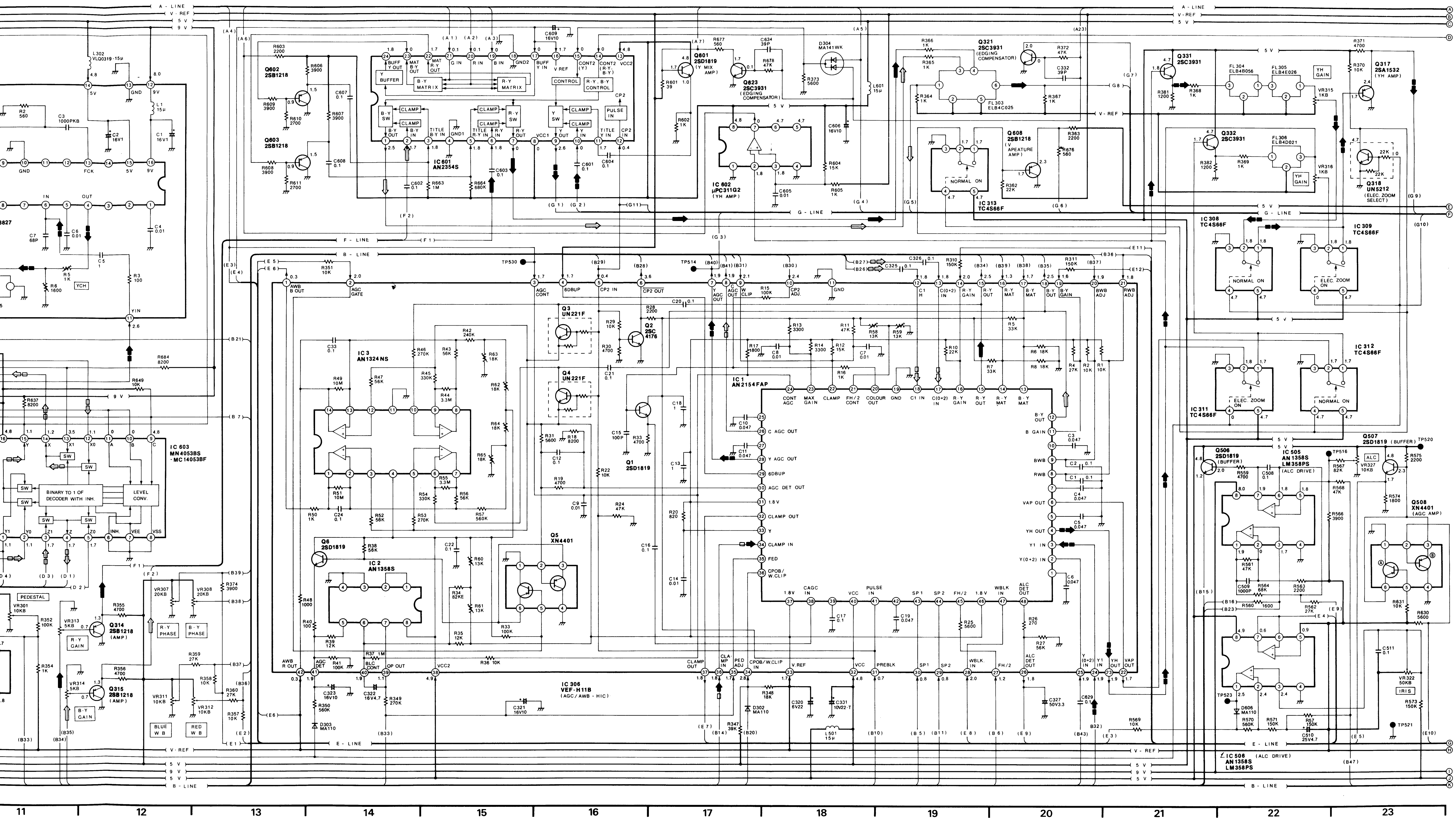
R-Y SIGNAL

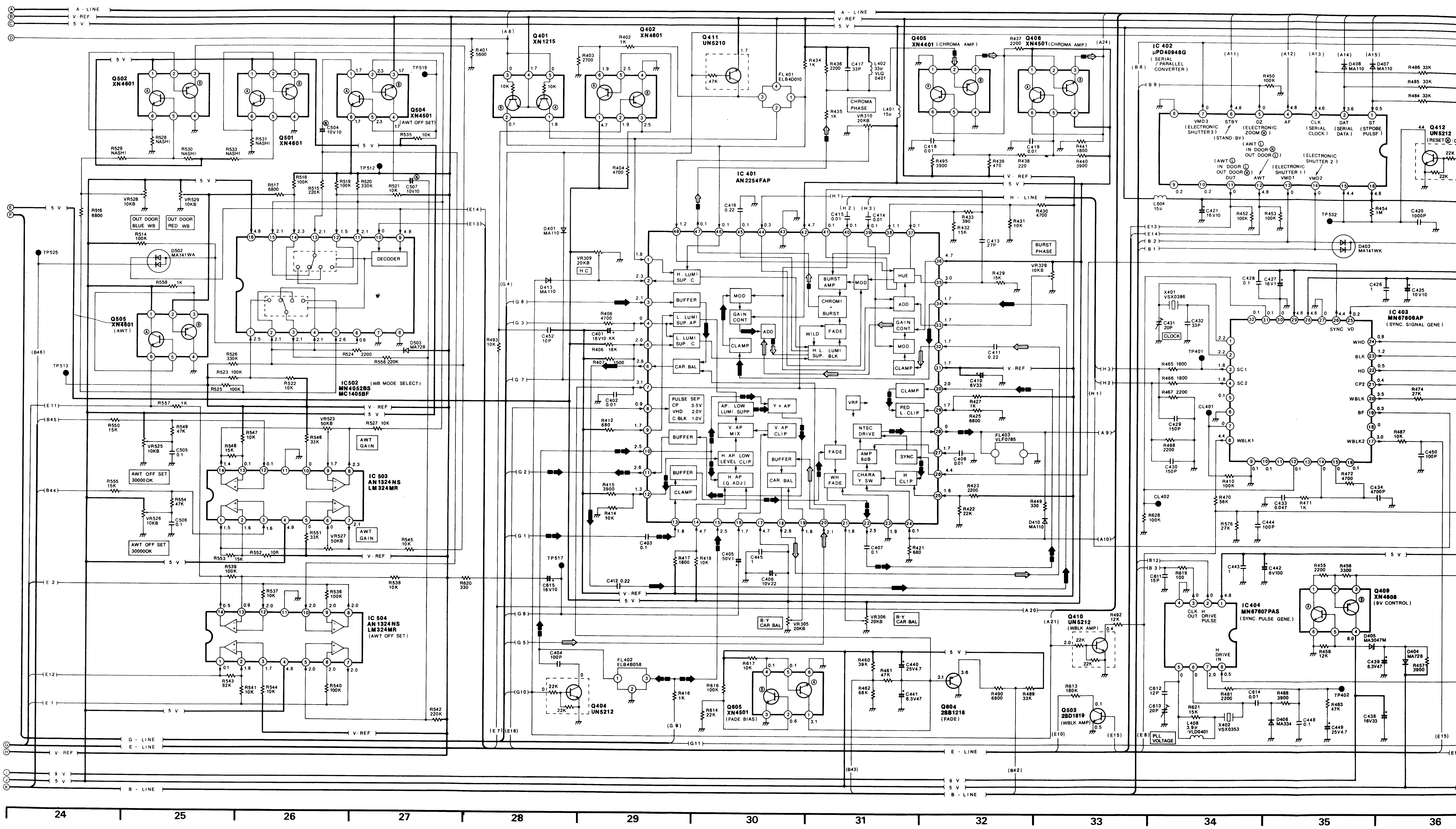
B-Y SIGNAL

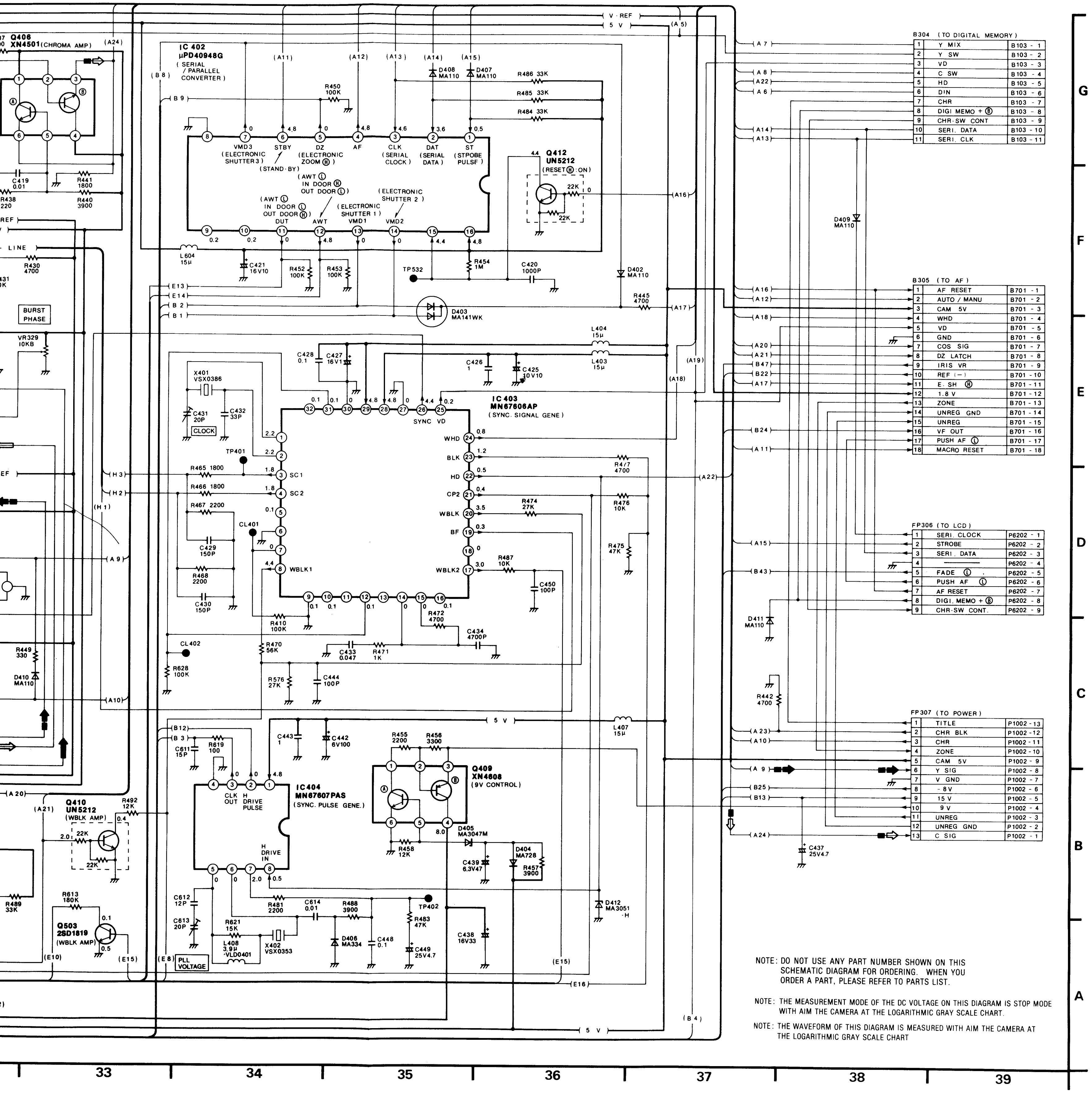


A - LINE
V - REF
5 V
9 V
B303 (TO DIGITAL MEMORY)
B102 - 1 AGC CONT 1
B102 - 2 AGC OUT 2
B102 - 3 VREF 3
B102 - 4 B / G 4
B102 - 5 R / G 5
B102 - 6 LOW H 6
B102 - 7 5 V 7
B102 - 8 GND 8
B102 - 9 CG 9
B102 - 10 CR 10
B102 - 11 CB 11
Q301 2SD1819 (YH AMP)
Q302 2SC3931 (YH AMP)
Q303 2SA1532 (YH AMP)
Q304 2SK198 (ELEC. ZOOM CARRIER TRAP SELECT)
Q305 2SK198 (ELEC. ZOOM F RESPONSE COMPENSATOR)
FL301 ELB4E025
Q615 2SC3931 (YH AMP)
Q616 2SC3931 (BUFFER)
Q617 XN4501
Q622 2SD1819 (Y/H BUFFER)
IC 302 VEF - H09B (1HDL - HIC)
Q309 UN5112
Q618 UN5112
Q308 XN4501 (FADE AGC COMPENSATOR)
Q619 UN5212
(FADE AGC COMPENSATOR)
(FADE DIGI. MEMO COMPENSATOR)
(FADE DIGI. MEMO COMPENSATOR)
D301 MO110
Q620 XN1215 (CLAMP)
Q625 2SA1532 (YH AMP)
IC 2 MN3828S
IC 1 MN3827
Q1 2SB1218
Q2 XN4401
Q3 2SB1218
Q4 2SD1819
FL1 VLF0785
ACH
BCH
CCH
YCH
C - LINE
Q306 2SK198 (ELEC. ZOOM. FREQ. RESPONSE)
Q612 XN4401 (C AMP)
Q621 XN1215 (CLAMP)
Q609 XN4401 (BUFFER)
Q610 XN4501 (BUFFER)
Q614 2SC3931 (BUFFER)
Q613 2SA1532 (AMP)
IC 603 MN4053BS · MC14053BF
IC 605 MN4053BS - MC14053BF
BINARY TO 1 OF 2 DECODER WITH INH.
BINARY TO 1 OF DECODER WITH INH.
LEVEL CONV.
B301 (TO CCD DRIVE)
B201 - 1 VMD2 1
B201 - 2 VMD1 2
B201 - 3 5 V 3
B201 - 4 9 V 4
B201 - 5 2F CK 5
B201 - 6 VD 6
B201 - 7 FCK 7
B201 - 8 SP1 8
B201 - 9 FH / 2 9
B201 - 10 DZ FH / 2 10
B201 - 11 DZ LATCH 11
B201 - 12 VMD3 12
B201 - 13 DZ Ⓜ 13
B201 - 14 P. BLK 14
B201 - 15 SP2 15
B201 - 16 CPOB 16
B201 - 17 HD 17
B201 - 18 -6 V 18
B201 - 19 15 V 19
B201 - 20 GND 20
B201 - 21 GND 21
B201 - 22 CDS SIG 22
IC 604 MN3828S
1HDL
CLK
C/H
COLOUR 2H
COLOUR 1H
Q611 XN4401 (C/H AMP)
CL301
CL302
CL304
CL305
FP302 (TO LENS U)
VWJ0386 - 8 MAIN ⊕ 1
VWJ0386 - 7 MAIN ⊖ 2
VWJ0386 - 6 CONT ⊖ 3
VWJ0386 - 5 CONT ⊕ 4
VWJ0386 - 4 HOLE OUT ⊕ 5
VWJ0386 - 3 HOLE IN ⊖ 6
VWJ0386 - 2 HOLE OUT ⊖ 7
VWJ0386 - 1 HOLE IN ⊕ 8
VJS2113
D501 MA110
IC 501 NJM4558MP RC4558M
HALL AMP GAIN
HALL AMP OFFSET
Q320 2SK198 (IRIS CONTROL)
TP515
TP518
Q313 UN5215 (ELEC. ZOOM BLK LEVEL)
D - LINE
ZOOM BLACK LEVEL
BLACK ADJ
DIGI. ZOOM BLACK
IC 608 TC4S66F
WHITE CLIP
IC 310 TC4S66F
DIGI. ZOOM PEDESTAL
PEDESTAL
IC 307 TC4S66F
R-Y GAIN
B-Y GAIN
Q314 2SB1218 (AMP)
Q315 2SB1218 (AMP)
R-Y PHASE
B-Y PHASE
BLUE W B
RED W B
B - LINE
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
12

Back Page:
DIGITAL MEMORY Section


IC 601 AN2354S
IC 602 μPC311G2 (YH AMP)
IC 603 MN4053BS · MC14053BF
IC 3 AN1324NS
IC 2 AN1358S
IC 1 AN2154FAP
IC 306 VEF-H11B (AGC/AWB-HIC)
IC 308 TC4S66F
IC 309 TC4S66F
IC 311 TC4S66F
IC 312 TC4S66F
IC 313 TC4S66F
IC 505 AN1358S LM358PS (ALC DRIVE)
IC 506 AN1358S LM358PS (ALC DRIVE)
Q602 2SB1218
Q603 2SB1218
Q601 2SD1819 (Y MIX AMP)
Q623 2SC3931 (EDGING COMPENSATOR)
Q321 2SC3931 (EDGING COMPENSATOR)
Q608 2SB1218 (V APEATURE AMP)
Q331 2SC3931
Q332 2SC3931
Q317 2SA1532 (YH AMP)
Q318 UN5212 (ELEC. ZOOM SELECT)
Q3 UN221F
Q4 UN221F
Q2 2SC4176
Q1 2SD1819
Q5 XN4401
Q6 2SD1819
Q314 2SB1218 (AMP)
Q315 2SB1218 (AMP)
Q506 2SD1819 (BUFFER)
Q507 2SD1819 (BUFFER)
Q508 XN4401 (AGC AMP)
A - LINE
V - REF
5 V
9 V
G - LINE
F - LINE
B - LINE
E - LINE
11
12
13
14
15
16
17
18
19
20
21
22
23


A - LINE
V - REF
5 V
Q502 XN4601
Q501 XN4601
Q504 XN4501 (AWT OFF SET)
Q505 XN4601 (AWT)
TP519
TP512
TP525
TP513
OUT DOOR BLUE WB
OUT DOOR RED WB
D502 MA141WA
DECODER
IC502 (WB MODE SELECT) MN4052BS MC1405BF
D503 MA728
AWT GAIN
IC 503 AN1324NS LM324MR
AWT OFF SET 30000OK
IC 504 AN1324NS LM324MR (AWT OFF SET)
Q401 XN1215
Q402 XN4601
Q411 UN5210
FL401 ELB4D010
CHROMA PHASE
Q405 XN4401 (CHROMA AMP)
Q406 XN4501 (CHROMA AMP)
IC 401 AN2254FAP
H. LUMI SUP. C
BUFFER
L. LUMI SUP. AP
L. LUMI SUP. C
CAR. BAL
PULSE SEP CP 3.5V VHD 2.0V C.BLK 1.0V
AP. LOW LUMI. SUPP
Y + AP
V. AP MIX
V. AP CLIP
H. AP. LOW LEVEL CLIP
H. AP (G. ADJ)
CLAMP
MOD
GAIN CONT
ADD
BURST AMP
CHROMI + BURST
FADE
WILD
H. L. LUMI SUP. BLK
HUE
PED L. CLIP
VRF
NTSC DRIVE
AMP 6dB
SYNC
CHARA Y. SW
H CLIP
WH FADE
BURST PHASE
FL403 VLF0785
D401 MA110
D413 MA110
D410 MA110
TP517
B-Y CAR BAL
R-Y CAR BAL
FL402 ELB4B058
Q404 UN5212
Q605 XN4501 (FADE BIAS)
Q604 2SB1218 (FADE)
Q410 UN5212 (WBLK AMP)
Q503 2SD1819 (WBLK AMP)
IC 402 µPD40948G (SERIAL / PARALLEL CONVERTER)
D408 MA110
D407 MA110
VMD3 (ELECTRONIC SHUTTER3)
STBY (STAND-BY)
DZ (ELECTRONIC ZOOM)
AF
CLK (SERIAL CLOCK)
DAT (SERIAL DATA)
ST (STPOBE PULSF)
Q412 UN5212 (RESET)
D403 MA141WK
TP532
IC 403 MN67606AP (SYNC. SIGNAL GENE)
X401 VSX0386
CLOCK
TP401
CL401
CL402
WHD
BLK
HD
CP2
WBLK
BF
WBLK2
IC404 MN67607PAS (SYNC. PULSE GENE.)
CLK OUT
H DRIVE PULSE
H DRIVE IN
L408 3.9µ VLD0401
X402 VSX0353
D406 MA334
TP402
PLL VOLTAGE
Q409 XN4608 (9V CONTROL)
D405 MA3047M
D404 MA728
G - LINE
E - LINE
H - LINE
9 V
B - LINE
24
25
26
27
28
29
30
31
32
33
34
35
36

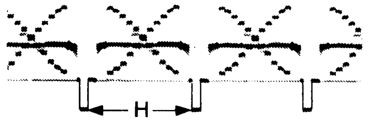
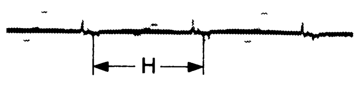
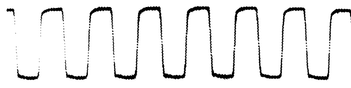
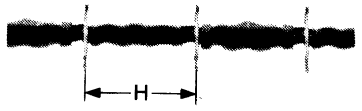
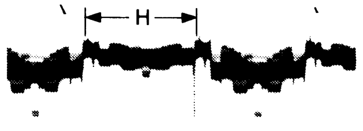
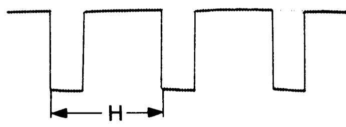
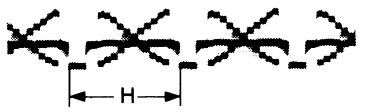
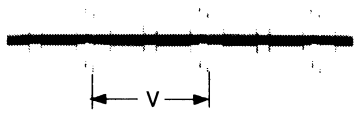
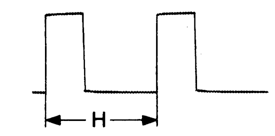
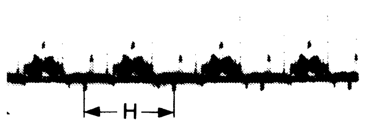
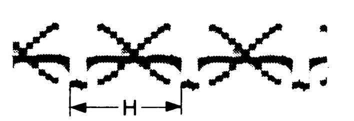
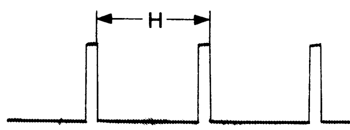
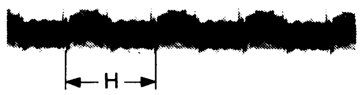
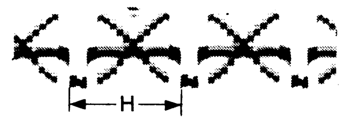
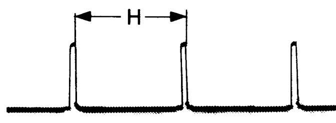
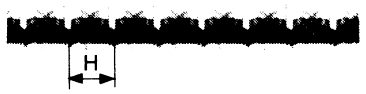
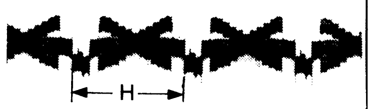
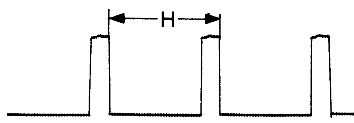

IC 402
μPD40948G
(SERIAL / PARALLEL CONVERTER)
VMD3 (ELECTRONIC SHUTTER 3)
STBY (STAND-BY)
DZ (ELECTRONIC ZOOM Ⓦ)
AF
CLK (SERIAL CLOCK)
DAT (SERIAL DATA)
ST (STPOBE PULSE)
DUT
AWT
VMD1
VMD2
Q412 UN5212 (RESET Ⓗ: ON)
Q406 XN4501 (CHROMA AMP)
IC 403
MN67606AP
(SYNC. SIGNAL GENE)
SYNC VD
WHD
BLK
HD
CP2
WBLK
BF
WBLK2
WBLK1
SC1
SC2
X401 VSX0386
CLOCK
TP401
TP532
CL401
CL402
D403 MA141WK
D402 MA110
D409 MA110
D411 MA110
D408 MA110
D407 MA110
IC404
MN67607PAS
(SYNC. PULSE GENE.)
CLK OUT
H DRIVE PULSE
H DRIVE IN
Q409 XN4608 (9V CONTROL)
D405 MA3047M
D404 MA728
D406 MA334
D412 MA3051-H
TP402
X402 VSX0353
PLL VOLTAGE
Q410 UN5212 (WBLK AMP)
Q503 2SD1819 (WBLK AMP)
D410 MA110
BURST PHASE
VR329 10KB
B304 (TO DIGITAL MEMORY)
1 Y MIX B103-1
2 Y SW B103-2
3 VD B103-3
4 C SW B103-4
5 HD B103-5
6 DIN B103-6
7 CHR B103-7
8 DIGI MEMO + Ⓑ B103-8
9 CHR-SW CONT B103-9
10 SERI. DATA B103-10
11 SERI. CLK B103-11
B305 (TO AF)
1 AF RESET B701-1
2 AUTO / MANU B701-2
3 CAM 5V B701-3
4 WHD B701-4
5 VD B701-5
6 GND B701-6
7 COS SIG B701-7
8 DZ LATCH B701-8
9 IRIS VR B701-9
10 REF (−) B701-10
11 E. SH Ⓗ B701-11
12 1.8 V B701-12
13 ZONE B701-13
14 UNREG GND B701-14
15 UNREG B701-15
16 VF OUT B701-16
17 PUSH AF Ⓛ B701-17
18 MACRO RESET B701-18
FP306 (TO LCD)
1 SERI CLOCK P6202-1
2 STROBE P6202-2
3 SERI. DATA P6202-3
4 P6202-4
5 FADE Ⓛ P6202-5
6 PUSH AF Ⓛ P6202-6
7 AF RESET P6202-7
8 DIGI. MEMO + Ⓑ P6202-8
9 CHR-SW CONT P6202-9
FP307 (TO POWER)
1 TITLE P1002-13
2 CHR BLK P1002-12
3 CHR P1002-11
4 ZONE P1002-10
5 CAM 5V P1002-9
6 Y SIG P1002-8
7 V GND P1002-7
8 -8V P1002-6
9 15 V P1002-5
10 9 V P1002-4
11 UNREG P1002-3
12 UNREG GND P1002-2
13 C SIG P1002-1
V-REF
5 V
G
F
E
D
C
B
A
33
34
35
36
37
38
39

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE WITH AIM THE CAMERA AT THE LOGARITHMIC GRAY SCALE CHART.

NOTE: THE WAVEFORM OF THIS DIAGRAM IS MEASURED WITH AIM THE CAMERA AT THE LOGARITHMIC GRAY SCALE CHART

PROCESS CIRCUIT WAVEFORM (STOP MODE)

FP307-⑥  1.2Vp-p	IC306-⑮  0.8Vp-p	IC403-③, ④  4Vp-p
FP307-⑬  240mVp-p	IC306-⑱  300mVp-p	IC403-⑧  5Vp-p
IC306-⑦, TP514  0.35Vp-p	IC306-㉒  0.45Vp-p	IC403-⑰, ⑳  4.8Vp-p
IC306-⑧  0.45Vp-p	IC306-㉓  0.4Vp-p	IC403-㉒, ㉓, ㉔  4.7Vp-p
IC306-⑫  80mVp-p	IC306-㉔  0.5Vp-p	IC403-㉑  5Vp-p
IC306-⑬  200mVp-p	IC306-㉕  0.48Vp-p	IC403-㉓, ㉔  4.8Vp-p

B304 (TO DIGITAL MEMORY)

1	Y MIX	B103 - 1
2	Y SW	B103 - 2
3	VD	B103 - 3
4	C SW	B103 - 4
5	HD	B103 - 5
6	DIN	B103 - 6
7	CHR	B103 - 7
8	DIGI MEMO + Ⓑ	B103 - 8
9	CHR-SW CONT	B103 - 9
10	SERI. DATA	B103 - 10
11	SERI. CLK	B103 - 11

B305 (TO AF)

1	AF RESET	B701 - 1
2	AUTO / MANU	B701 - 2
3	CAM 5V	B701 - 3
4	WHD	B701 - 4
5	VD	B701 - 5
6	GND	B701 - 6
7	COS SIG	B701 - 7
8	DZ LATCH	B701 - 8
9	IRIS VR	B701 - 9
10	REF (−)	B701 - 10
11	E. SH Ⓗ	B701 - 11
12	1.8 V	B701 - 12
13	ZONE	B701 - 13
14	UNREG GND	B701 - 14
15	UNREG	B701 - 15
16	VF OUT	B701 - 16
17	PUSH AF Ⓛ	B701 - 17
18	MACRO RESET	B701 - 18

FP306 (TO LCD)

1	SERI. CLOCK	P6202 - 1
2	STROBE	P6202 - 2
3	SERI. DATA	P6202 - 3
4	———	P6202 - 4
5	FADE Ⓛ	P6202 - 5
6	PUSH AF Ⓛ	P6202 - 6
7	AF RESET	P6202 - 7
8	DIGI. MEMO + Ⓑ	P6202 - 8
9	CHR/SW CONT.	P6202 - 9

FP307 (TO POWER)

1	TITLE	P1002 - 13
2	CHR BLK	P1002 - 12
3	CHR	P1002 - 11
4	ZONE	P1002 - 10
5	CAM 5V	P1002 - 9
6	Y SIG	P1002 - 8
7	V GND	P1002 - 7
8	- 8 V	P1002 - 6
9	15 V	P1002 - 5
10	9 V	P1002 - 4
11	UNREG	P1002 - 3
12	UNREG GND	P1002 - 2
13	C SIG	P1002 - 1

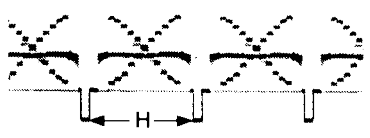
R SHOWN ON THIS RING. WHEN YOU O PARTS LIST.

DC VOLTAGE ON THIS DIAGRAM IS STOP MODE ARITHMIC GRAY SCALE CHART.

S MEASURED WITH AIM THE CAMERA AT RT

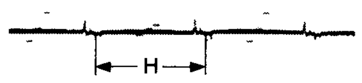
PROCESS CIRCUIT WAVEFORM (STOP MODE)

FP307-⑥



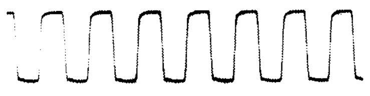
1.2 Vp-p

IC306-⑮



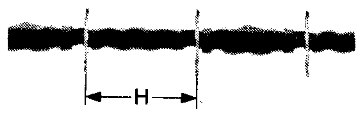
0.8 Vp-p

IC403-③, ④



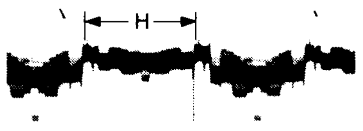
4 Vp-p

FP307-⑬



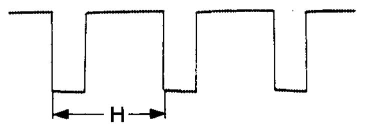
240 mVp-p

IC306-⑱



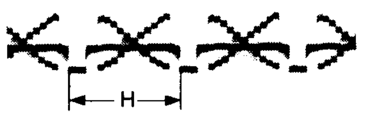
300 mVp-p

IC403-⑧



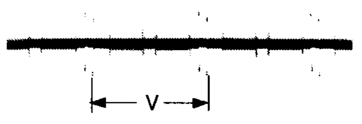
5 Vp-p

IC306-⑦, TP514



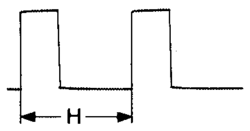
0.35 Vp-p

IC306-㉒



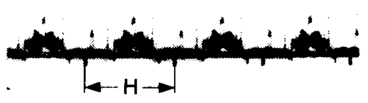
0.45 Vp-p

IC403-⑰, ⑳



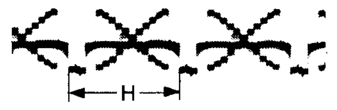
4.8 Vp-p

IC306-⑧



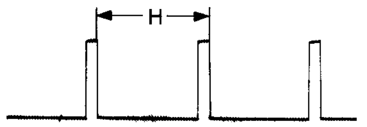
0.45 Vp-p

IC306-㉓



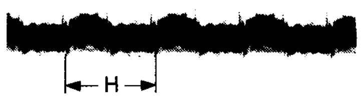
0.4 Vp-p

IC403-㉒, ㉓, ㉔



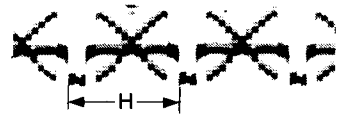
4.7 Vp-p

IC306-⑫



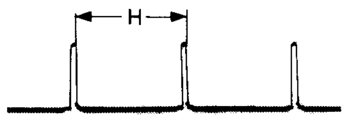
80 mVp-p

IC306-㉔



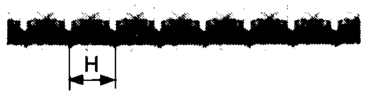
0.5 Vp-p

IC403-㉑



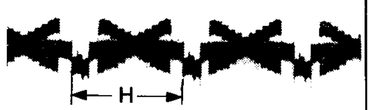
5 Vp-p

IC306-⑬



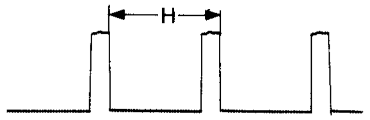
200 mVp-p

IC306-㉕



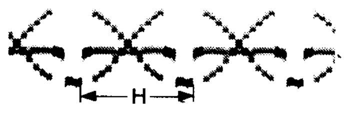
0.48 Vp-p

IC403-㉓, ㉔



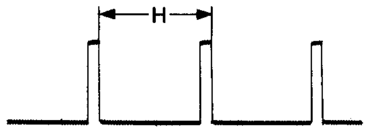
4.8 Vp-p

IC403-㉕



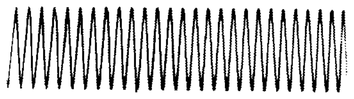
220 mVp-p

IC404-②



5 Vp-p

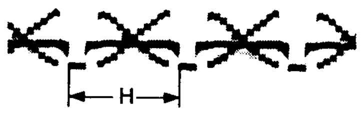
IC404-③



2.5 Vp-p

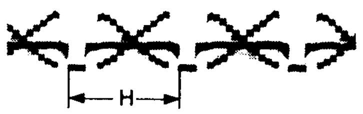
IC302 (STOP MODE)

IC302-6



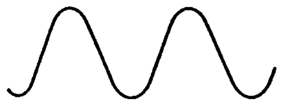
0.4 Vp-p

IC302-15, 16, 17, 20



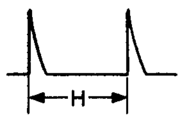
0.4 Vp-p

IC302-9



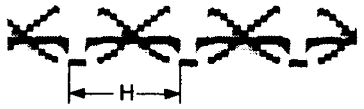
5.8 Vp-p

IC302-22



4 Vp-p

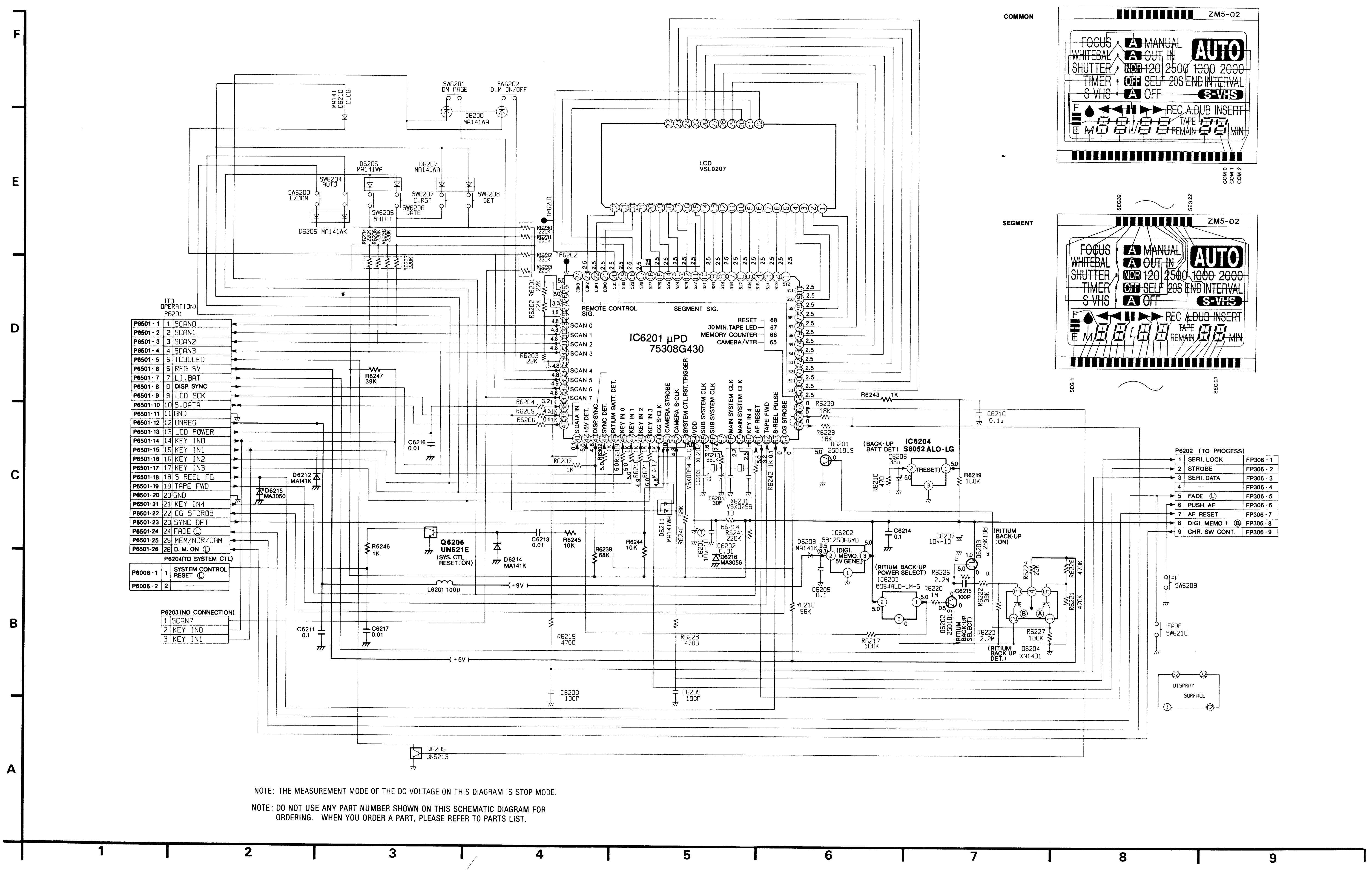
IC302-11



0.5 Vp-p

Next Page:
LCD Section

3-10. LCD SCHEMATIC DIAGRAM

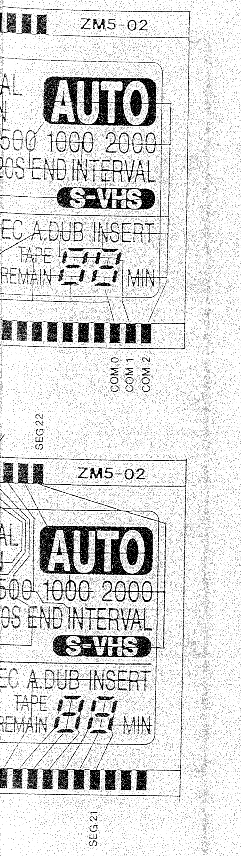


F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
LCD VSL0207
IC6201 μPD 75308G430
REMOTE CONTROL SIG.
SEGMENT SIG.
SCAN 0
SCAN 1
SCAN 2
SCAN 3
SCAN 4
SCAN 5
SCAN 6
SCAN 7
RESET 68
30 MIN. TAPE LED 67
MEMORY COUNTER 66
CAMERA/VTR 65
S.DATA IN
+5V DET.
DISP. SYNC
SYNC DET.
RITIUM BATT. DET.
KEY IN 0
KEY IN 1
KEY IN 2
KEY IN 3
CG S-CLK
CAMERA STROBE
CAMERA S-CLK
SYSTEM CTL. RST. TRIGGER
VDD
SUB SYSTEM CLK
SUB SYSTEM CLK
MAIN SYSTEM CLK
MAIN SYSTEM CLK
KEY IN 4
AF RESET
TAPE FWD
S-REEL PULSE
CG STROBE
(TO OPERATION) P6201
P6501·1 1 SCAN0
P6501·2 2 SCAN1
P6501·3 3 SCAN2
P6501·4 4 SCAN3
P6501·5 5 TC30LED
P6501·6 6 REG 5V
P6501·7 7 LI.BAT
P6501·8 8 DISP. SYNC
P6501·9 9 LCD SCK
P6501·10 10 S.DATA
P6501·11 11 GND
P6501·12 12 UNREG
P6501·13 13 LCD POWER
P6501·14 14 KEY IN0
P6501·15 15 KEY IN1
P6501·16 16 KEY IN2
P6501·17 17 KEY IN3
P6501·18 18 S REEL FG
P6501·19 19 TAPE FWD
P6501·20 20 GND
P6501·21 21 KEY IN4
P6501·22 22 CG STOROB
P6501·23 23 SYNC DET
P6501·24 24 FADE Ⓛ
P6501·25 25 MEM/NOR/CAM
P6501·26 26 D. M. ON Ⓛ
P6204(TO SYSTEM CTL)
P6006·1 1 SYSTEM CONTROL RESET Ⓛ
P6006·2 2 ——
P6203(NO CONNECTION)
1 SCAN7
2 KEY IN0
3 KEY IN1
P6202 (TO PROCESS)
1 SERI. LOCK FP306·1
2 STROBE FP306·2
3 SERI. DATA FP306·3
4 —— FP306·4
5 FADE Ⓛ FP306·5
6 PUSH AF FP306·6
7 AF RESET FP306·7
8 DIGI. MEMO + Ⓑ FP306·8
9 CHR. SW CONT. FP306·9
SW6201 DM PAGE
SW6202 D.M ON/OFF
D6208 MA141WA
MA141 D6210 CLOG
D6206 MA141WA
D6207 MA141WA
SW6204 AUTO
SW6203 EZOOM
SW6207 C.RST
SW6208 SET
SW6205 SHIFT
SW6206 DATE
D6205 MA141WK
TP6201
TP6202
R6230 220K
R6231 220K
R6232 220K
R6233 220K
R6234 220K
R6235 220K
R6236 220K
R6237 220K
R6201 22K
R6202 22K
R6203 22K
R6204 3.2
R6205 3.1
R6206 0.1
R6207 1K
R6247 39K
C6216 0.01
D6212 MA141K
D6215 MA3050
Q6206 UN521E (SYS. CTL. RESET : ON)
D6214 MA141K
C6213 0.01
R6245 10K
R6246 1K
R6239 68K
R6244 10K
L6201 100μ
(+9V)
(+5V)
C6211 0.1
C6217 0.01
R6215 4700
R6228 4700
C6208 100P
C6209 100P
Q6205 UN5213
D6211 MA141WA
R6240 68K
X6202 V5XD094-A
C6203 22P
R6213 330K
C6204 30P
X6201 V5X0299
R6214
R6241 220K
C6201 10V-10
C6202 0.01
D6216 MA3056
R6242 1K
R6243 1K
R6238 18K
R6229 18K
Q6201 2SD1819
C6210 0.1u
(BACK·UP BATT DET)
IC6204 S8052 ALO·LG
C6206 33u
(RESET)
R6218 470
R6219 100K
D6209 MA141K
IC6202 S81250HGRD
(DIGI. MEMO. 5V GENE.)
C6214 0.1
C6207 10V-10
Q6203 2SK198
(RITIUM BACK·UP :ON)
C6205 0.1
(RITIUM BACK·UP POWER SELECT) IC6203 8054ALB-LM-S
R6225 2.2M
R6220 1M
C6215 100P
R6216 56K
Q6202 2SD1819
(RITIUM BACK·UP SELECT)
R6217 100K
R6223 2.2M
R6224 22K
R6222 33K
R6226 470K
R6221 470K
R6227 100K
(RITIUM BACK UP DET.)
Q6204 XN1401
AF SW6209
FADE SW6210
DISPRAY SURFACE
COMMON
ZM5-02
FOCUS
WHITEBAL
SHUTTER
TIMER
S-VHS
MANUAL
OUT IN
AUTO
120 2500 1000 2000
SELF 20S END INTERVAL
OFF
S-VHS
REC A.DUB INSERT
TAPE REMAIN
MIN
COM 0
COM 1
COM 2
SEG32
SEG22
SEGMENT
SEG 1
SEG 21

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

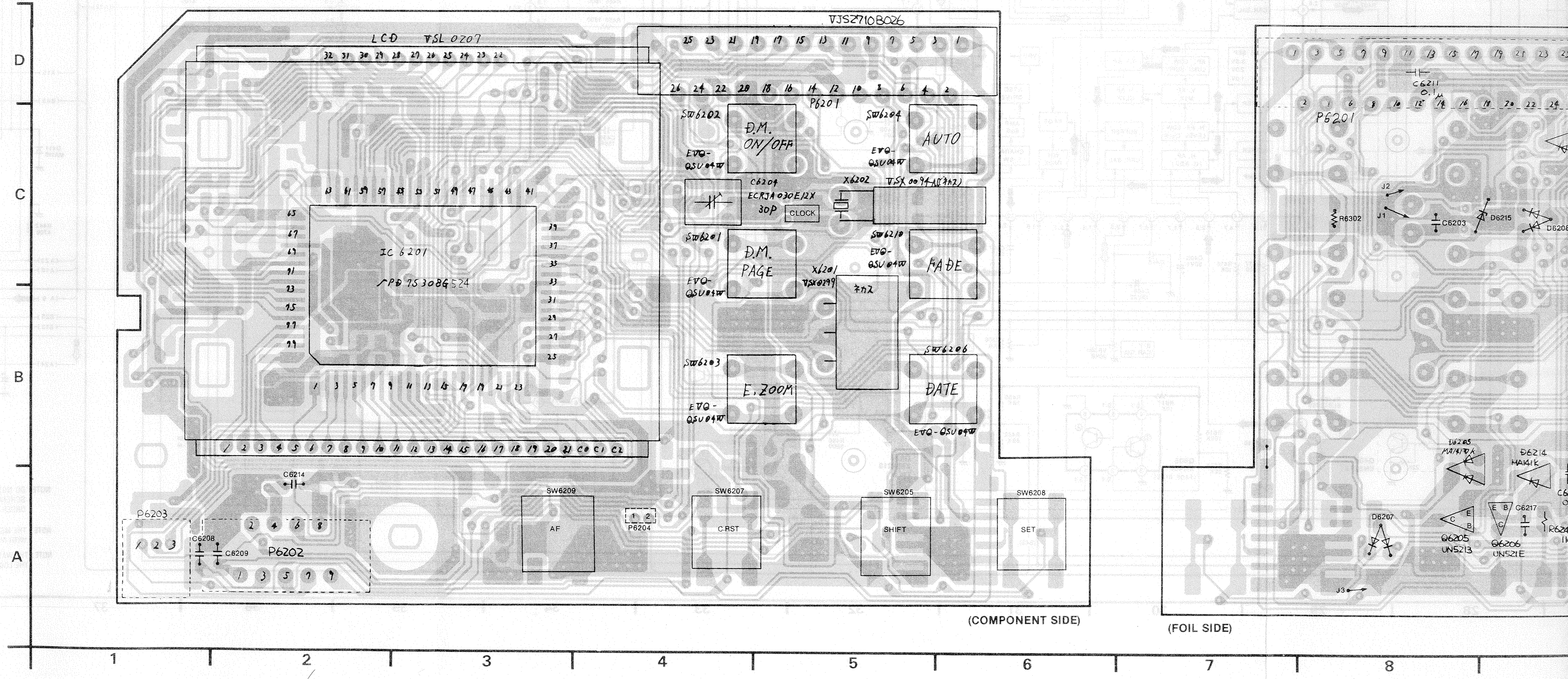
3-11. LCD C.B.A. (VEP06590B)


ZM5-02
AUTO
500 1000 2000
0S END INTERVAL
S-VHS
EC A.DUB INSERT
TAPE
REMAIN
MIN
COM 0
COM 1
COM 2
SEG 22
ZM5-02
AUTO
500 1000 2000
0S END INTERVAL
S-VHS
EC A.DUB INSERT
TAPE
REMAIN
MIN
SEG 21

P6202 (TO PROCESS)

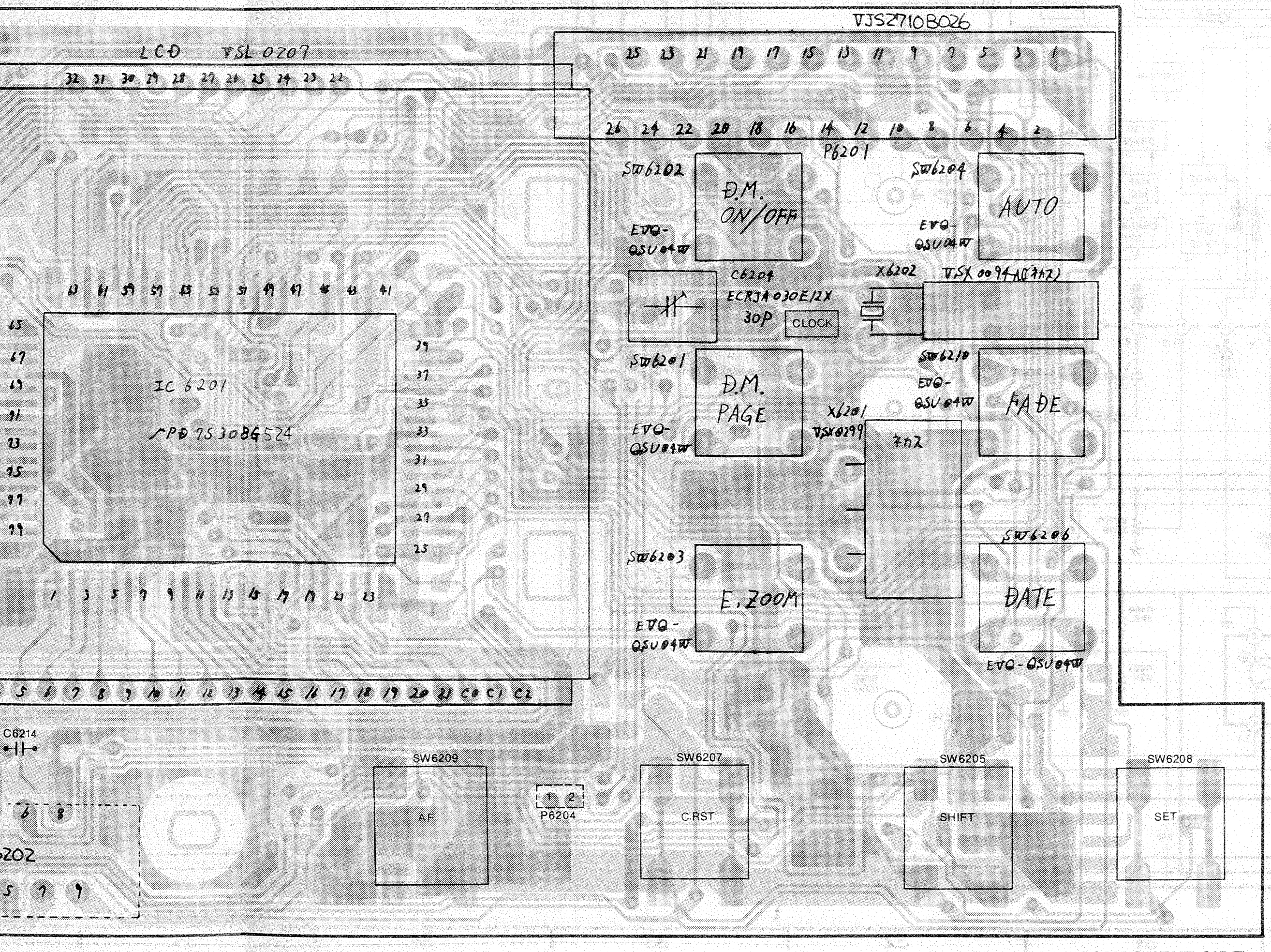
1	SERI. LOCK	FP306 - 1
2	STROBE	FP306 - 2
3	SERI. DATA	FP306 - 3
4	————	FP306 - 4
5	FADE Ⓛ	FP306 - 5
6	PUSH AF	FP306 - 6
7	AF RESET	FP306 - 7
8	DIGI. MEMO + Ⓑ	FP306 - 8
9	CHR. SW CONT.	FP306 - 9

AF
SW6209
FADE
SW6210
DISPRAY
SURFACE

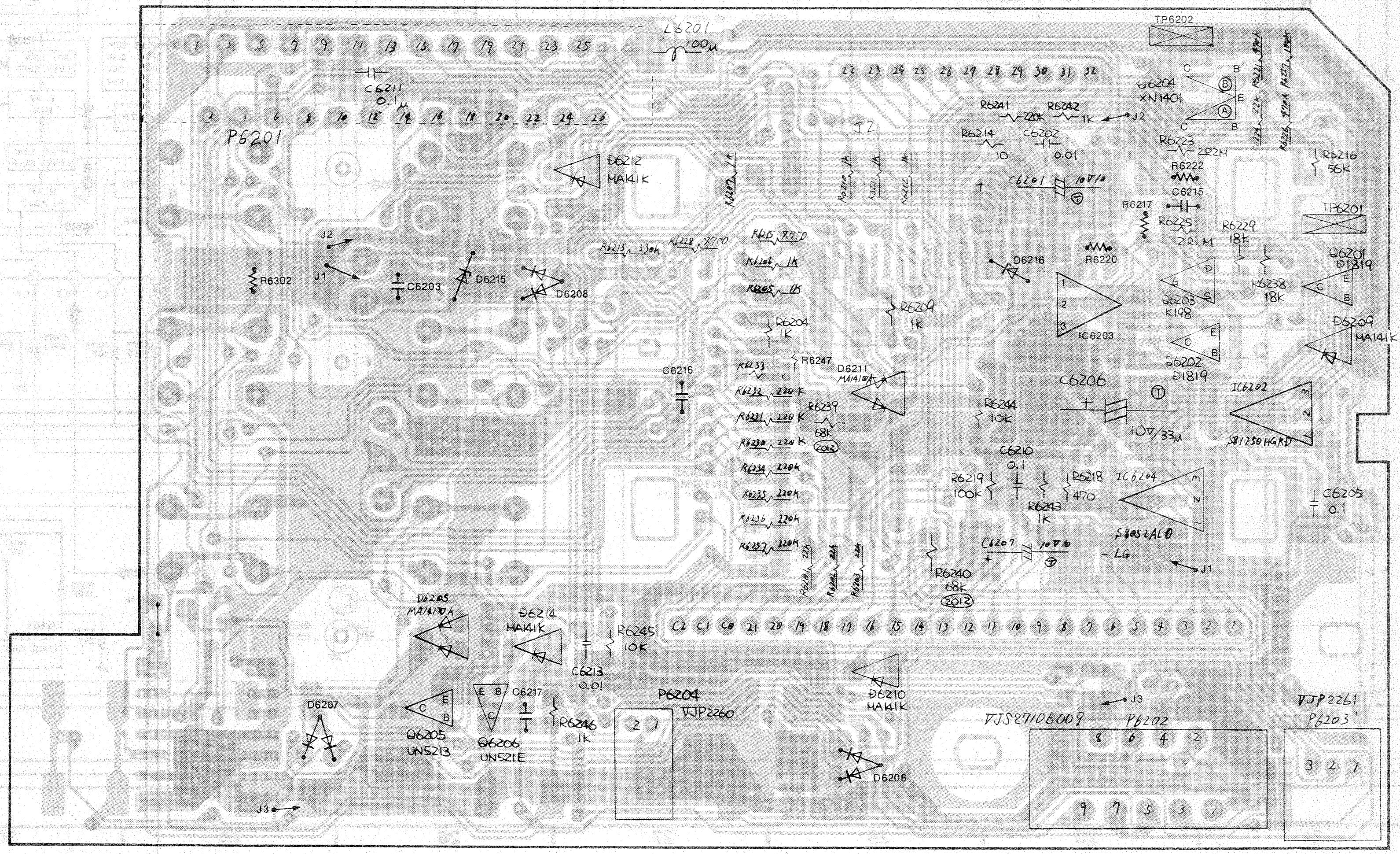

D
C
B
A
LCD VSL0207
IC6201
μPD75308G524
VJSZ710B026
P6201
SW6202
D.M. ON/OFF
EVQ-QSU04W
SW6204
AUTO
C6204
ECRJA030E12X
30P
CLOCK
X6202
VSX0094A
SW6201
D.M. PAGE
X6201
VSX0299
SW6210
FADE
SW6203
E.ZOOM
SW6206
DATE
EVQ-QSU04W
C6214
P6203
C6208
C6209
P6202
SW6209
AF
P6204
SW6207
C.RST
SW6205
SHIFT
SW6208
SET
(COMPONENT SIDE)
(FOIL SIDE)
C6211
0.1
R6302
J1
J2
J3
C6203
D6215
D6208
D6205
MA141WA
D6214
MA141K
D6207
Q6205
UN5213
Q6206
UN521E
C6217
9
1
2
3
4
5
6
7
8

LCD C.B.A.		
Transistor		
Q6201	C-12	Ⓕ
Q6202	C-11	Ⓕ
Q6203	C-11	Ⓕ
Q6204	D-11	Ⓕ
Q6205	A-8	Ⓕ
Q6206	A-9	Ⓕ
Integrated Circuit		
IC6201	C-3	Ⓒ
IC6202	B-12	Ⓕ
IC6203	C-11	Ⓕ
IC6204	B-11	Ⓕ
Adjustment		
C6204	C-4	Ⓒ
Test Point		
TP6201	C-12	Ⓕ
TP6202	D-11	Ⓕ
Connector		
P6201	D-5	Ⓒ
P6201	C-8	Ⓕ
P6202	A-2	Ⓒ
P6202	A-11	Ⓕ
P6203	A-1	Ⓒ
P6203	A-12	Ⓕ
P6204	A-4	Ⓒ
P6204	A-9	Ⓕ

ADDRESS INFORMATION
Ⓒ...COMPONENT SIDE
Ⓕ...FOIL SIDE


LCD VSL0207
VJSZ7108026
P6201
IC6201
μPD7530BG524
SW6202
D.M. ON/OFF
EVQ-QSU04W
SW6204
AUTO
C6204
ECRJA030E12X
30P
CLOCK
X6202
VSX0094
SW6201
D.M. PAGE
X6201
VSX0299
SW6210
FADE
SW6203
E.ZOOM
SW6206
DATE
C6214
SW6209
AF
P6204
SW6207
C.RST
SW6205
SHIFT
SW6208
SET

(COMPONENT SIDE)


TP6202
L6201
100μ
C6211
0.1
P6201
D6212
HA141K
R6302
J1
J2
C6203
D6215
D6208
Q6204
XN1401
R6241
220k
R6242
1k
R6214
10
C6202
0.01
R6223
2.2M
R6222
C6201
10/10
C6215
R6216
56K
TP6201
R6217
R6225
2.2M
R6229
18k
Q6201
D1819
D6216
R6220
R6238
18k
Q6203
K198
R6209
1K
IC6203
D6209
HA141K
R6204
1k
R6247
C6216
D6211
MA141WA
Q6202
D1819
C6206
10/33M
IC6202
S81250HGRD
R6244
10k
R6239
68k
C6210
0.1
R6219
100k
R6218
470
R6243
1K
IC6204
S8052ALO
-LG
C6205
0.1
C6207
R6240
68k
D6205
MA141WA
D6214
HA141K
R6245
10k
C6213
0.01
D6207
C6217
R6246
1k
Q6205
UN5213
Q6206
UN521E
P6204
VJP2260
D6210
HA141K
D6206
VJS2710B009
P6202
VJP2261
P6203
J3

(FOIL SIDE)

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS CIRCUIT BOARD FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

2 3 4 5 6 7 8 9 10 11 12

3-12. PROCESS C.B.A. (VEP23101A)

Process C.B.A.

Transistor	
Q301	B-13 Ⓕ
Q302	B-13 Ⓕ
Q303	C-13 Ⓕ
Q304	A-13 Ⓕ
Q305	C-13 Ⓕ
Q306	C-5 ©
Q308	D-1 ©
Q309	D-17 Ⓕ
Q313	D-6 ©
Q314	B-10 Ⓕ
Q315	B-9 ©
Q317	B-14 Ⓕ
Q318	A-14 Ⓕ
Q320	A-10 Ⓕ
Q321	C-2 ©
Q331	B-13 Ⓕ
Q332	B-14 Ⓕ
Q401	C-3 ©
Q402	A-4 ©
Q404	B-14 Ⓕ
Q405	C-3 ©
Q406	C-3 ©
Q409	E-9 ©
Q410	B-16 Ⓕ
Q411	B-16 Ⓕ
Q412	B-11 Ⓕ
Q503	C-1 ©
Q504	C-8 ©
Q505	C-7 ©
Q506	A-15 Ⓕ
Q507	B-17 Ⓕ
Q508	C-1 ©
Q601	C-16 Ⓕ
Q602	C-2 ©
Q603	C-17 Ⓕ
Q604	D-17 Ⓕ
Q605	C-1 ©
Q608	C-14 Ⓕ
Q609	D-6 ©
Q610	D-7 ©
Q611	D-5 ©
Q612	D-6 ©
Q613	B-13 Ⓕ
Q614	C-13 Ⓕ
Q615	B-13 Ⓕ
Q616	C-13 Ⓕ
Q617	C-6 ©
Q618	D-1 ©
Q619	C-17 Ⓕ
Q620	B-5 ©
Q621	D-6 ©
Q622	B-12 Ⓕ
Q623	B-2 ©
Q625	B-6 ©

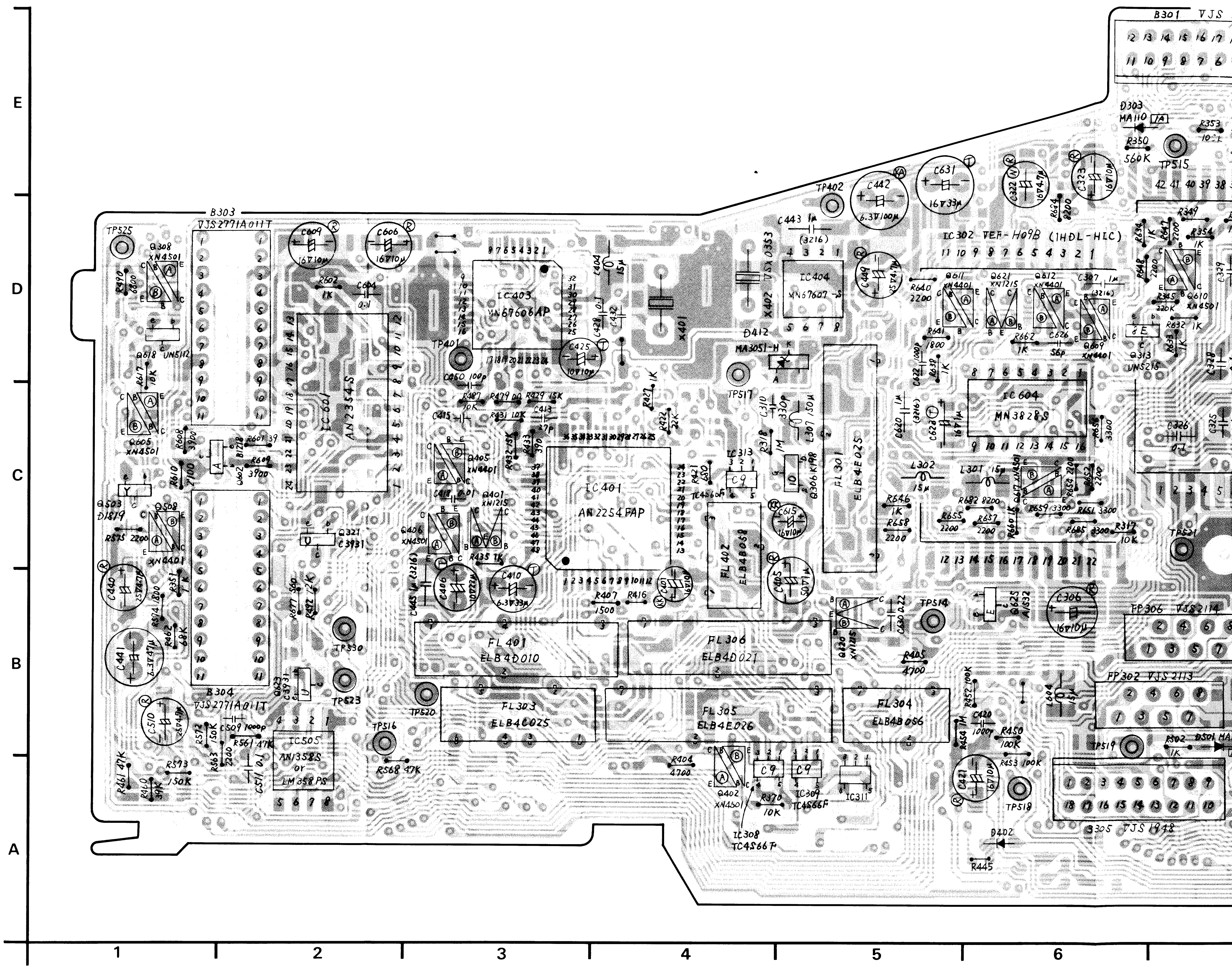
Integrated Circuit	
IC302	D-5 ©
IC306	D-7 ©
IC307	E-7 ©
IC308	A-4 ©
IC309	A-5 ©
IC310	D-11 Ⓕ
IC311	A-5 ©
IC312	A-11 Ⓕ
IC313	C-4 ©
IC401	C-4 ©
IC402	B-12 Ⓕ
IC403	D-3 ©
IC404	D-5 ©
IC501	A-7 ©
IC502	D-10 Ⓕ
IC503	C-8 ©
IC504	C-10 Ⓕ
IC505	B-2 ©
IC506	B-17 Ⓕ
IC601	C-2 ©
IC602	D-16 Ⓕ
IC603	D-12 Ⓕ
IC604	C-6 ©
IC605	C-12 Ⓕ
IC608	C-7 ©

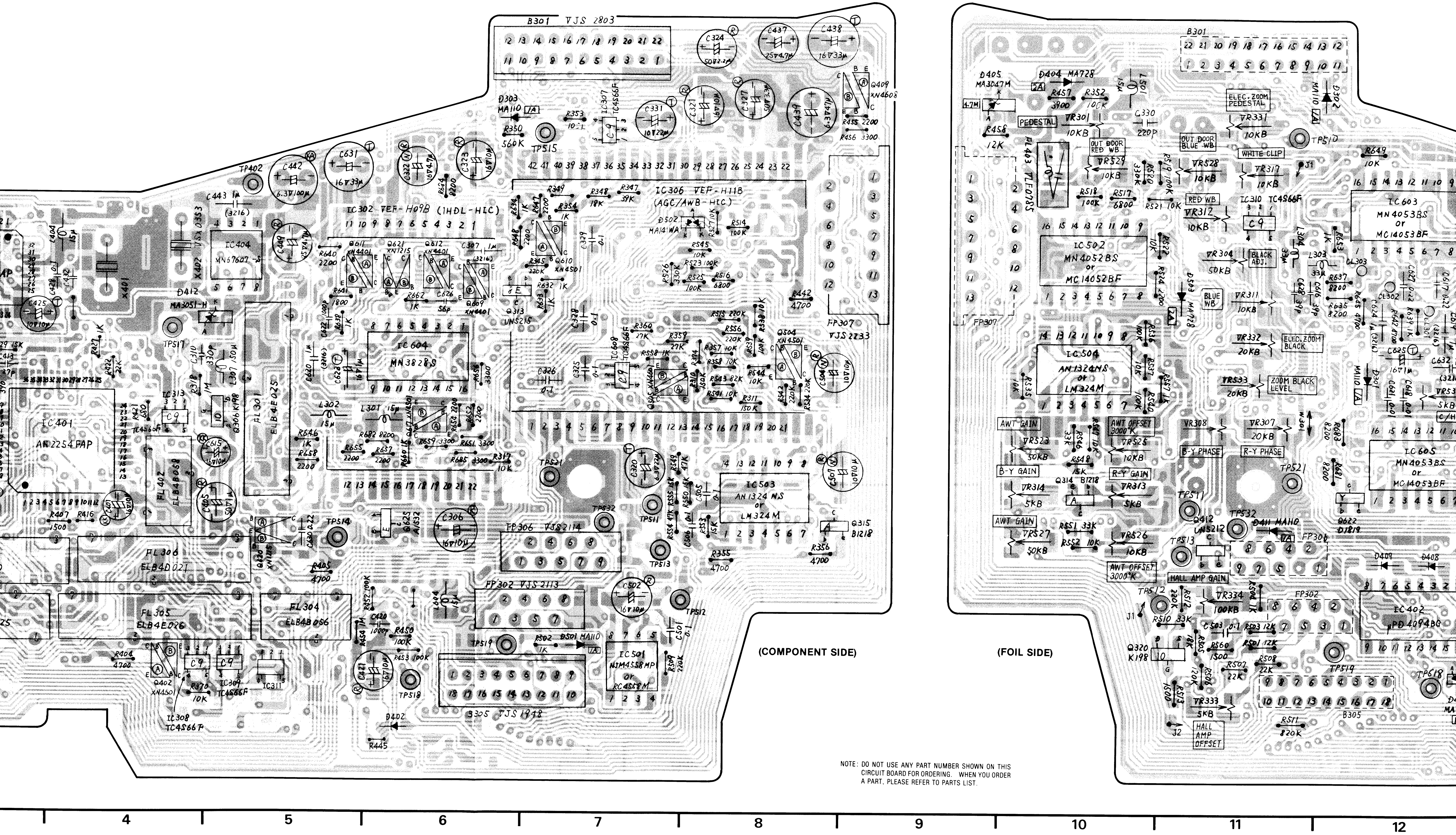
Test Point	
TP401	D-3 ©
TP401	D-15 Ⓕ
TP402	D-5 ©
TP402	D-13 Ⓕ
TP511	B-7 ©
TP511	B-11 Ⓕ
TP512	B-8 ©
TP512	B-10 Ⓕ
TP513	B-7 ©
TP513	B-11 Ⓕ
TP514	B-5 ©
TP514	B-13 Ⓕ
TP515	E-7 ©
TP515	E-11 Ⓕ
TP516	B-2 ©
TP516	B-16 Ⓕ
TP517	C-4 ©
TP517	C-14 Ⓕ
TP518	A-6 ©
TP518	A-12 Ⓕ
TP519	B-6 ©
TP519	A-12 Ⓕ
TP520	B-3 ©
TP520	B-15 Ⓕ
TP521	C-7 ©
TP521	C-11 Ⓕ
TP523	B-2 ©
TP523	B-16 Ⓕ
TP525	D-1 ©
TP525	D-17 Ⓕ
TP530	B-2 ©
TP530	B-16 Ⓕ
TP532	B-7 ©
TP532	B-11 Ⓕ

Adjustment	
C431	D-14 Ⓕ
C613	D-13 Ⓕ
VR301	E-10 Ⓕ
VR304	D-11 Ⓕ
VR305	C-15 Ⓕ
VR306	C-14 Ⓕ
VR307	C-11 Ⓕ
VR308	C-11 Ⓕ
VR309	B-14 Ⓕ
VR310	B-15 Ⓕ
VR311	D-11 Ⓕ
VR312	D-11 Ⓕ
VR313	B-10 Ⓕ
VR314	B-10 Ⓕ
VR315	B-14 Ⓕ
VR316	B-14 Ⓕ
VR317	D-11 Ⓕ
VR322	A-16 Ⓕ
VR327	B-16 Ⓕ
VR329	C-15 Ⓕ
VR331	E-11 Ⓕ
VR332	C-11 Ⓕ
VR333	A-11 Ⓕ
VR334	B-11 Ⓕ
VR523	C-10 Ⓕ
VR525	C-10 Ⓕ
VR526	B-10 Ⓕ
VR527	B-10 Ⓕ
VR528	D-11 Ⓕ
VR529	E-10 Ⓕ
VR530	C-13 Ⓕ
VR531	C-13 Ⓕ
VR532	C-12 Ⓕ
VR533	C-11 Ⓕ

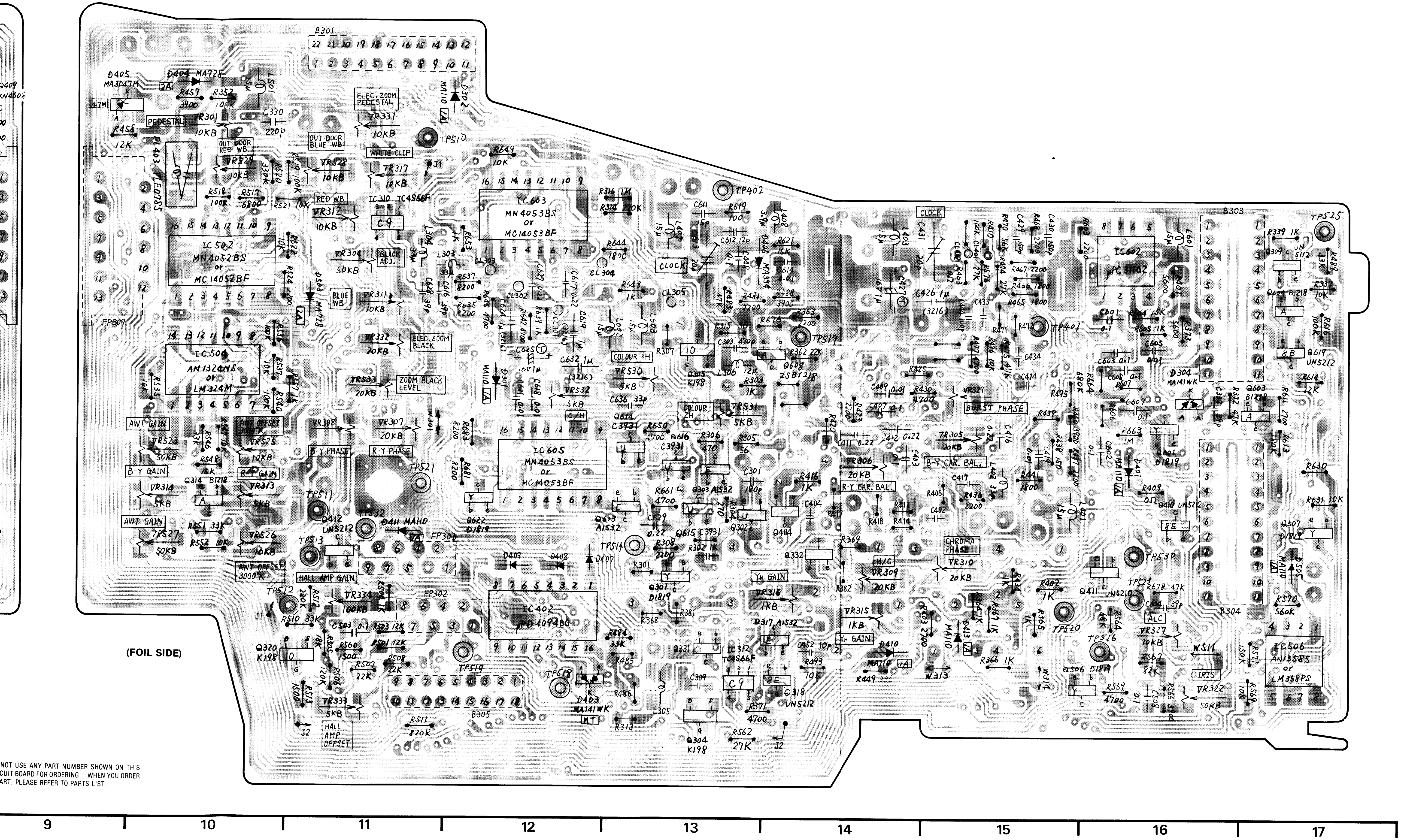
Connector	
B301	E-7 ©
B301	E-11 Ⓕ
B303	D-1 ©
B303	D-16 Ⓕ
B304	B-1 ©
B304	B-16 Ⓕ
B305	A-6 ©
B305	A-12 Ⓕ
FP302	B-6 ©
FP302	B-11 Ⓕ
FP306	B-6 ©
FP306	B-11 Ⓕ
FP307	D-9 ©
FP307	D-9 Ⓕ

ADDRESS INFORMATION
©...COMPONENT SIDE
Ⓕ...FOIL SIDE


E
D
C
B
A
1
2
3
4
5
6
B301 VJS
B303 VJS2771A011T
B304 VJS2771A011T
B305 TJS1948
FP306 VJS2114
FP302 VJS2113
IC302 VEF-H09B (1HDL-HIC)
IC401 AN2254FAP
IC403 MN6960AP
IC404 MN57607-S
IC505 AN1358S or LM358PS
IC601 AN2354S
IC604 MN3828S
IC308 TC4S66F
IC309 TC4S66F
IC311
IC313
FL301 ELB4E025
FL303 ELB4C025
FL304 ELB4B056
FL305 ELB4E026
FL306 ELB4D021
FL401 ELB4D010
FL402 ELB4B058
X401
X402 VSX0353
D303 MA110
D402
D412 MA3051-H
TP401
TP402
TP514
TP515
TP516
TP517
TP518
TP519
TP520
TP521
TP523
TP525
TP530
C442 6.3V100μ
C631 16V33μ
C323 16V10μ
C609 16V10μ
C606 16V10μ
C425 10V10μ
C410 6.3V33μ
C406
C440
C441
C510
C421 16V10μ
C306 16V10μ
C615 16V10μ
C405
C449
Q308 XN4501
Q605 XN4501
Q508 XN4401
Q405 XN4401
Q401 XN1215
Q406 XN4501
Q402 XN4501
Q611 XN4401
Q621 XN1215
Q612 XN4401
Q609 XN4401
Q610 XN4501
Q313 UN5213
Q618 UN5112
Q321 C3931
Q623 C3931
Q620 XN1215
Q503 D1819
R350 560K
R445


(COMPONENT SIDE)
(FOIL SIDE)
B301 VJS 2803
IC302 VEF-H09B (1HDL-HIC)
IC306 VEF-H11B (AGC/AWB-HIC)
IC401 AN2254FAP
IC404 MN67607-S
IC604 MN3828S
IC503 AN1324NS or LM324M
IC501 NJM4558MP or RC4558M
IC502 MN4052BS or MC14052BF
IC504 AN1324NS or LM324M
IC603 MN4053BS or MC14053BF
IC605 MN4053BS or MC14053BF
IC402 PD4094BG
FL301 ELB4E025
FL402 ELB4B050
FL306 ELB4D021
FL305 ELB4E026
FL304 ELB4B056
FP306 VJS2114
FP302 VJS2113
FP307 VJS2233
B305 VJS1948
PEDESTAL
ELEC. ZOOM PEDESTAL
OUT DOOR RED WB
OUT DOOR BLUE WB
WHITE CLIP
RED WB
BLACK ADJ.
BLUE WB
ELEC. ZOOM BLACK
ZOOM BLACK LEVEL
AWT GAIN
AWT OFFSET 3000°K
B-Y PHASE
R-Y PHASE
B-Y GAIN
R-Y GAIN
HALL AMP GAIN
HALL AMP OFFSET
4
5
6
7
8
9
10
11
12

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS CIRCUIT BOARD FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

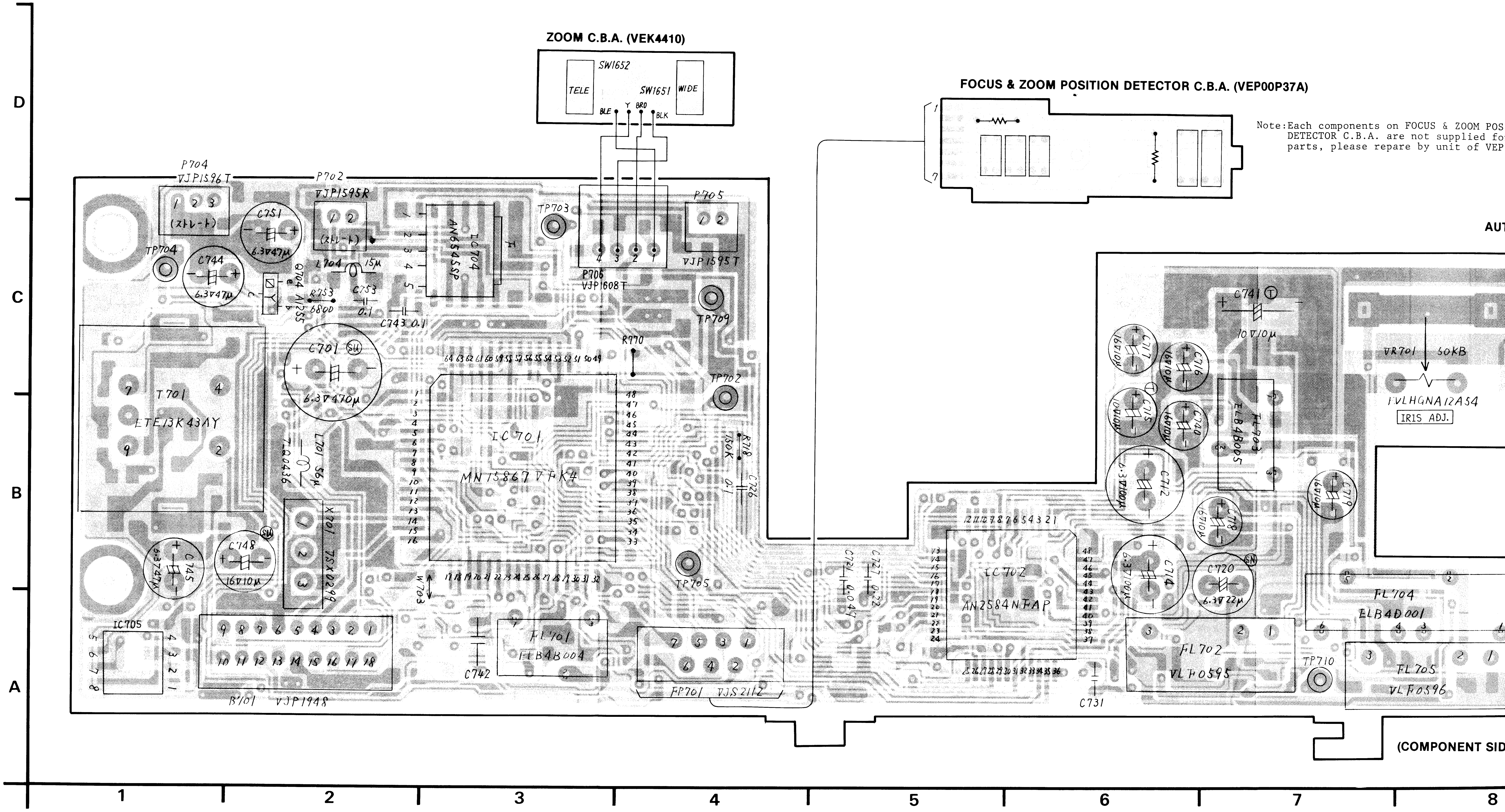

B301
IC502
MN4052BS or MC14052BF
IC504
AN1324NS or LM324M
IC603
MN4053BS or MC14053BF
IC605
MN4053BS or MC14053BF
IC402
μPD4094BG
IC602
μPC3110Z
IC506
AN1358S or LM358PS
IC310 TC4S66F
IC312 TC4S66F
B303
B304
B305
FP302
FP304
FP307
PEDESTAL
OUT DOOR RED WB
OUT DOOR BLUE WB
ELEC. ZOOM PEDESTAL
WHITE CLIP
RED WB
BLACK ADJ.
BLUE WB
ELEC. ZOOM BLACK
ZOOM BLACK LEVEL
AWT GAIN
AWT OFFSET 3000°K
B-Y GAIN
R-Y GAIN
B-Y PHASE
R-Y PHASE
HALL AMP GAIN
HALL AMP OFFSET
COLOUR 1H
COLOUR 2H
C/H
CLOCK
BURST PHASE
B-Y CAR. BAL.
R-Y CAR. BAL.
CHROMA PHASE
H/C
YH GAIN
ALC
IRIS
TP510
TP402
TP401
TP517
TP521
TP511
TP532
TP513
TP512
TP514
TP518
TP520
TP516
TP530
TP525
9
10
11
12
13
14
15
16
17

(FOIL SIDE)

NOT USE ANY PART NUMBER SHOWN ON THIS
CUIT BOARD FOR ORDERING. WHEN YOU ORDER
ART, PLEASE REFER TO PARTS LIST.

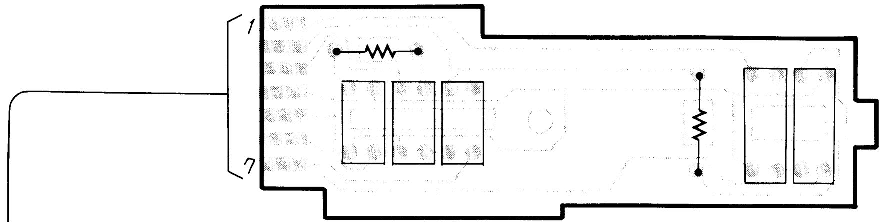
Next Page:
AUTO FOCUS Section

3-13. AUTO FOCUS C.B.A. (VEP27053A)


ZOOM C.B.A. (VEK4410)
SW1652
SW1651
TELE
WIDE
BLE
Y
BRD
BLK
FOCUS & ZOOM POSITION DETECTOR C.B.A. (VEP00P37A)
AUT
(COMPONENT SID
D
C
B
A
1
2
3
4
5
6
7
8
P704
VJP1596T
P702
VJP1595R
P705
VJP1595T
P706
VJP1608T
TP703
TP704
TP709
TP702
TP705
TP710
C751
6.3V47μ
C744
6.3V47μ
Q704
A1255
R753
6800
C753
0.1
L704
15μ
C743 0.1
IC704
AN6545SP
C701
6.3V470μ
R770
T701
ETE13K43AY
L701
56μ
TLQ0436
X701
TSX0299
IC701
MN15867VFK4
R718
150K
C726
0.1
C745
6.3V47μ
C748
16V10μ
W703
IC705
P701
VJP1948
C742
FL701
ELB4B004
FP701
VJS2112
C721
0.047
C727
0.22
IC702
AN2584NFAP
C731
C741
10V10μ
C717
16V10μ
C716
16V10μ
C715
10V10μ
C740
16V10μ
C712
6.3V100μ
C718
16V10μ
C714
6.3V100μ
C720
6.3V22μ
C719
16V10μ
FL703
ELB4B005
FL702
VLF0595
FL704
ELB4D001
FL705
VLF0596
VR701
50KB
EVLHGNA12A54
IRIS ADJ.

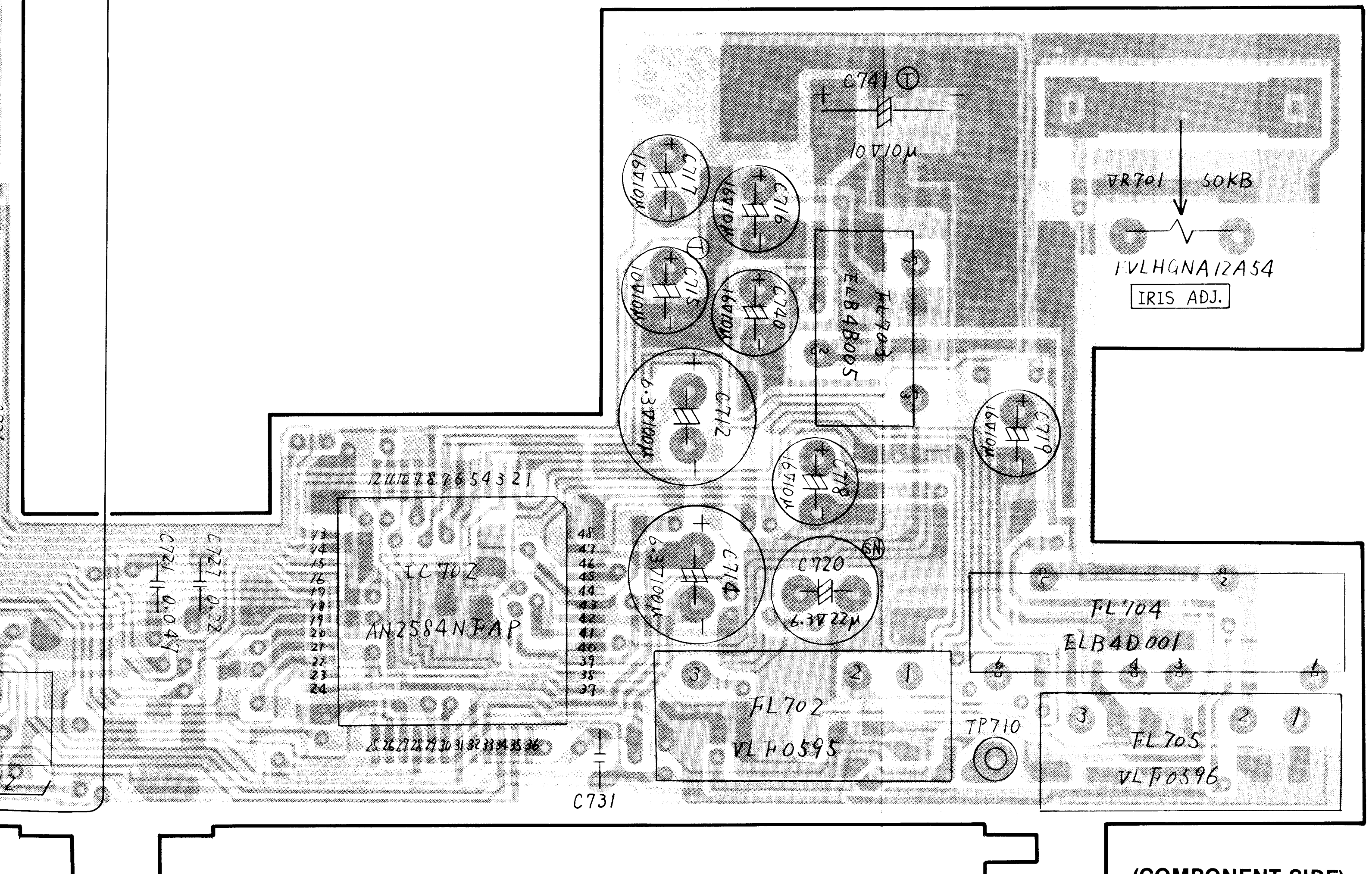
Note:Each components on FOCUS & ZOOM POS
DETECTOR C.B.A. are not supplied fo
parts, please repare by unit of VEP

FOCUS & ZOOM POSITION DETECTOR C.B.A. (VEP00P37A)

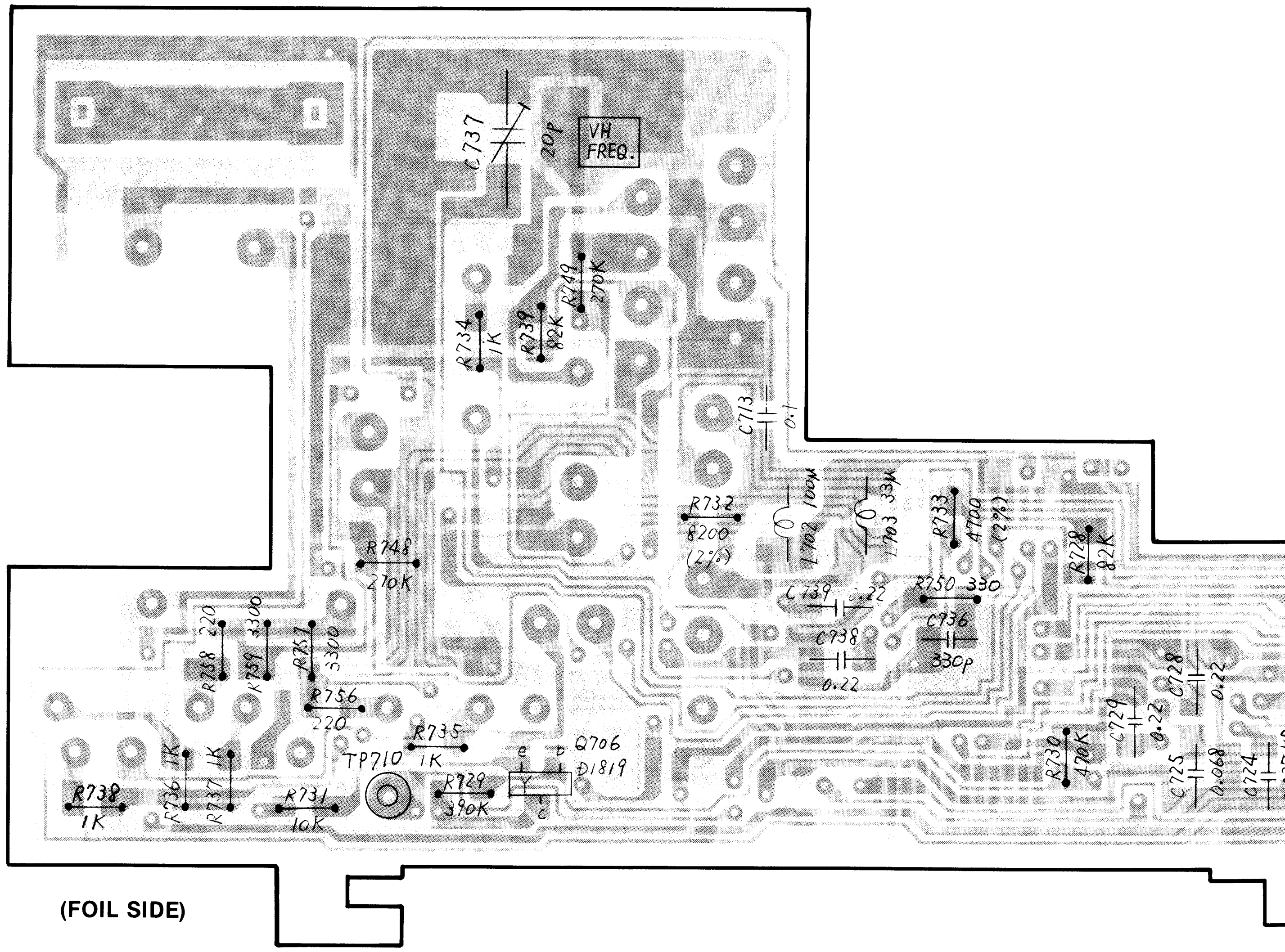


Note: Each components on FOCUS & ZOOM POSITION DETECTOR C.B.A. are not supplied for spare parts, please repare by unit of VEP00P37A.

AUTO FOCUS C.B.A. (VEP27053A)

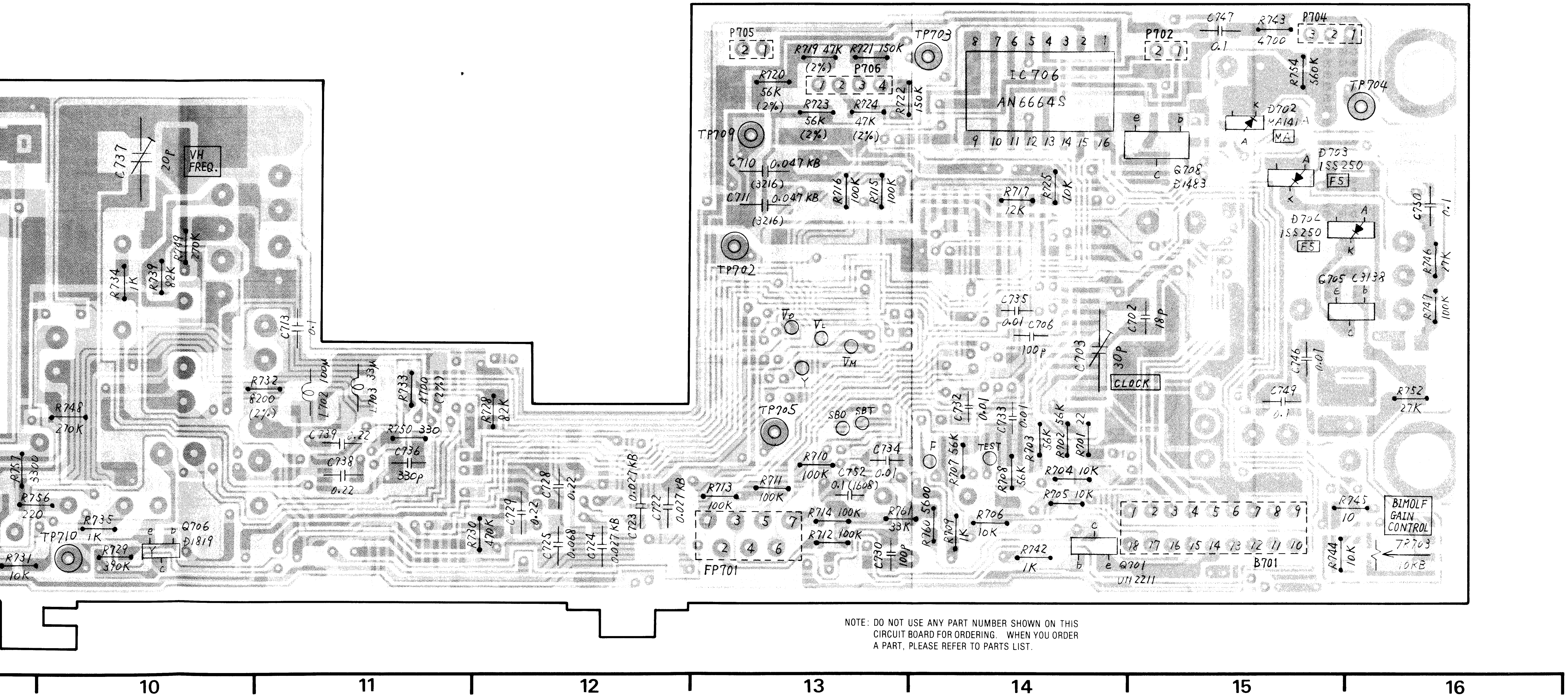

C741
10V10μ
VR701 50KB
EVLHGNA12A54
IRIS ADJ.
C717 16V10M
C716 16V10M
C715 10V10M
C740 16V10M
FL703 ELB4B005
C712 6.3V100μ
C719 16V10M
C718 16V10M
C714 6.3V100μ
C720 6.3V22μ
IC702
AN2584NFAP
FL704 ELB4D001
FL702 VLF0595
FL705 VLF0596
TP710
C731
C724 0.047
C727 0.22

(COMPONENT SIDE)


C737 20P
VH FREQ.
R734 1K
R739 82K
R749 270K
C713 0.1
L702 100μ
L703 33μ
R732 8200 (2%)
R733 4700 (2%)
R728 82K
R748 270K
R750 330
C739 0.22
C738 0.22
C736 330p
R758 220
R759 3300
R757 3300
R756 220
R735 1K
Q706 D1819
R729 390K
R731 10K
TP710
R738 1K
R736 1K
R737 1K
R730 470K
C729 0.22
C728 0.22
C725 0.068
C724

(FOIL SIDE)

5 6 7 8 9 10 11 12

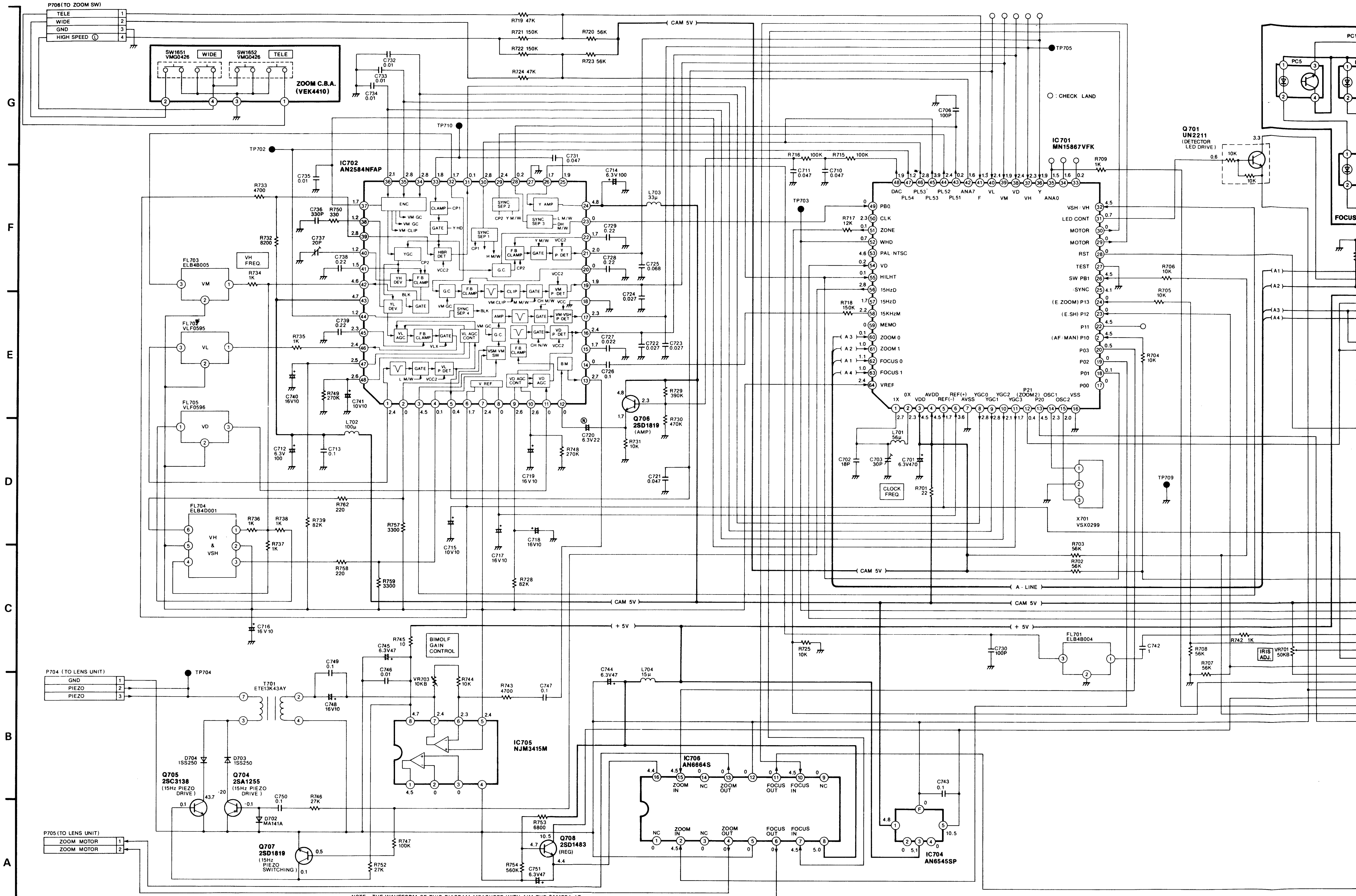

P705
R719 47K
R721 150K
TP703
IC706
AN6664S
P702
C747
0.1
R743
4700
P704
R720
56K
(2%)
P706
R723
56K
(2%)
R724
47K
(2%)
R722
150K
R754
560K
TP704
TP709
D702
MA141-A
MA
C737
20P
VH FREQ.
C710
0.047 KB
(3216)
C711
0.047 KB
(3216)
R716
100K
R715
100K
R717
12K
R725
10K
Q708
D1483
D703
1SS250
F5
D704
1SS250
F5
C750
0.1
TP702
R734
1K
R739
82K
R749
270K
C713
0.1
C735
0.01
C706
100P
C702
18P
C703
30P
CLOCK
Q705
C3138
R746
27K
R747
100K
C746
0.01
VP
VL
VM
R732
8200
(2%)
L702
100µ
L703
33µ
R733
4700
(2%)
R728
82K
R748
270K
TP705
SBO
SBT
C749
0.1
R752
27K
C739
0.22
R750
330
C738
0.22
C736
330P
C732
0.01
C733
0.01
R703
56K
R702
56K
R701
22
F
TEST
R707
56K
R708
56K
R704
10K
R705
10K
R710
100K
C752
0.1 (1608)
C734
0.01
R711
100K
R713
100K
R757
3300
R756
220
R735
1K
Q706
D1819
TP710
R729
390K
R731
10K
R730
470K
C729
0.22
C728
0.22
C725
0.068
C724
0.027 KB
C723
0.027 KB
C722
0.027 KB
R714
100K
R712
100K
R761
33K
R760
5600
R709
1K
R706
10K
R742
1K
C730
100P
FP701
Q701
UN2211
B701
R745
10
R744
10K
BIMOLF GAIN CONTROL
VR703
10KB
10
11
12
13
14
15
16

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS CIRCUIT BOARD FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

AUTO FOCUS C.B.A.	
Transistor	
Q701	A-14 Ⓕ
Q704	C-2 Ⓒ
Q705	A-15 Ⓕ
Q706	A-10 Ⓕ
Q708	C-15 Ⓕ
Integrated Circuit	
IC701	B-3 Ⓒ
IC702	B-5 Ⓒ
IC704	C-3 Ⓕ
IC705	A-1 Ⓒ
IC706	C-14 Ⓕ
Test Point	
TP702	C-4 Ⓒ
TP702	B-13 Ⓕ
TP703	C-3 Ⓒ
TP703	C-14 Ⓕ
TP704	C-1 Ⓒ
TP704	C-16 Ⓕ
TP705	B-4 Ⓒ
TP705	B-13 Ⓕ
TP709	C-4 Ⓒ
TP709	C-13 Ⓕ
TP710	A-7 Ⓒ
TP710	A-10 Ⓕ
Adjustment	
C703	A-14 Ⓕ
C737	C-10 Ⓕ
VR701	C-8 Ⓒ
VR703	A-16 Ⓕ
Connector	
B701	A-2 Ⓒ
B701	A-15 Ⓕ
FP701	A-4 Ⓒ
FP701	A-13 Ⓕ
P702	D-2 Ⓒ
P702	C-15 Ⓕ
P704	D-1 Ⓒ
P704	C-15 Ⓕ
P705	D-4 Ⓒ
P705	C-13 Ⓕ
P706	C-3 Ⓒ
P706	C-13 Ⓕ

ADDRESS INFORMATION
Ⓒ...COMPONENT SIDE
Ⓕ...FOIL SIDE

3-14. AUTO FOCUS SCHEMATIC DIAGRAM

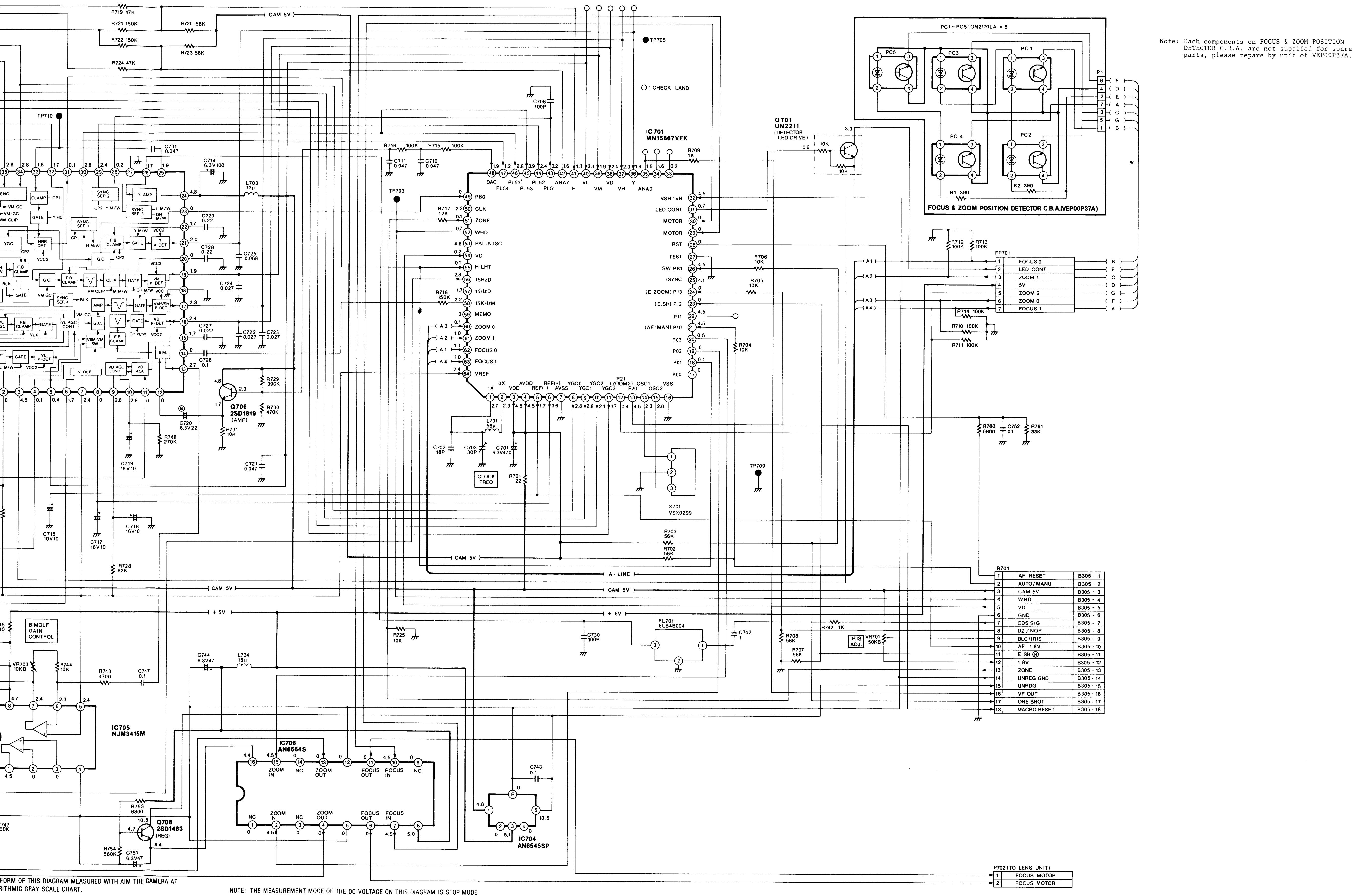

P706 (TO ZOOM SW)
TELE
WIDE
GND
HIGH SPEED
SW1651 VMG0426
SW1652 VMG0426
WIDE
TELE
ZOOM C.B.A. (VEK4410)
IC702 AN2584NFAP
IC701 MN15867VFK
Q701 UN2211 (DETECTOR LED DRIVE)
FL703 ELB4B005
VM
FL702 VLF0595
VL
FL705 VLF0596
VD
FL704 ELB4D001
VH & VSH
VH FREQ.
TP702
TP710
TP703
TP704
TP705
TP709
○ : CHECK LAND
CAM 5V
A - LINE
+ 5V
X701 VSX0299
CLOCK FREQ.
Q706 2SD1819 (AMP)
P704 (TO LENS UNIT)
GND
PIEZO
PIEZO
T701 ETE13K43AY
BIMOLF GAIN CONTROL
IC705 NJM3415M
Q705 2SC3138 (15Hz PIEZO DRIVE)
Q704 2SA1255 (15Hz PIEZO DRIVE)
D704 1SS250
D703 1SS250
D702 MA141A
Q707 2SD1819 (15Hz PIEZO SWITCHING)
P705 (TO LENS UNIT)
ZOOM MOTOR
ZOOM MOTOR
Q708 2SD1483 (REG)
IC706 AN6664S
ZOOM IN
ZOOM OUT
FOCUS OUT
FOCUS IN
NC
IC704 AN6545SP
FL701 ELB4B004
IRIS ADJ.
VR701 50KB
FOCUS
PC5
A
B
C
D
E
F
G
1
2
3
4
5
6
7
8
9
10

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE WAVEFORM OF THIS DIAGRAM MEASURED WITH AIM THE CAMERA AT THE LOGARITHMIC GRAY SCALE CHART.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE WITH AIM THE CAMERA AT THE LOGARITHMIC GRAY SCALE CHART.

Note: Each components on FOCUS & ZOOM POSITION DETECTOR C.B.A. are not supplied for spare parts, please repare by unit of VEP00P37A.


CAM 5V
TP705
○ : CHECK LAND
TP710
TP703
TP709
IC701
MN15867VFK
Q701
UN2211
(DETECTOR LED DRIVE)
PC1~PC5: ON2170LA × 5
PC5
PC3
PC 1
PC 4
PC2
P1
R1 390
R2 390
FOCUS & ZOOM POSITION DETECTOR C.B.A.(VEP00P37A)
FP701
1 FOCUS 0
2 LED CONT
3 ZOOM 1
4 5V
5 ZOOM 2
6 ZOOM 0
7 FOCUS 1
Q706
2SD1819
(AMP)
X701
VSX0299
CLOCK FREQ.
FL701
ELB4B004
A · LINE
+ 5V
IRIS ADJ.
VR701 50KB
B701
1 AF RESET B305 · 1
2 AUTO/MANU B305 · 2
3 CAM 5V B305 · 3
4 WHD B305 · 4
5 VD B305 · 5
6 GND B305 · 6
7 CDS SIG B305 · 7
8 DZ/NOR B305 · 8
9 BLC/IRIS B305 · 9
10 AF 1.8V B305 · 10
11 E.SH Ⓝ B305 · 11
12 1.8V B305 · 12
13 ZONE B305 · 13
14 UNREG GND B305 · 14
15 UNRDG B305 · 15
16 VF OUT B305 · 16
17 ONE SHOT B305 · 17
18 MACRO RESET B305 · 18
BIMOLF GAIN CONTROL
IC705
NJM3415M
IC706
AN6664S
ZOOM IN
ZOOM OUT
FOCUS OUT
FOCUS IN
NC
IC704
AN6545SP
Q708
2SD1483
(REG)
P702 (TO LENS UNIT)
1 FOCUS MOTOR
2 FOCUS MOTOR

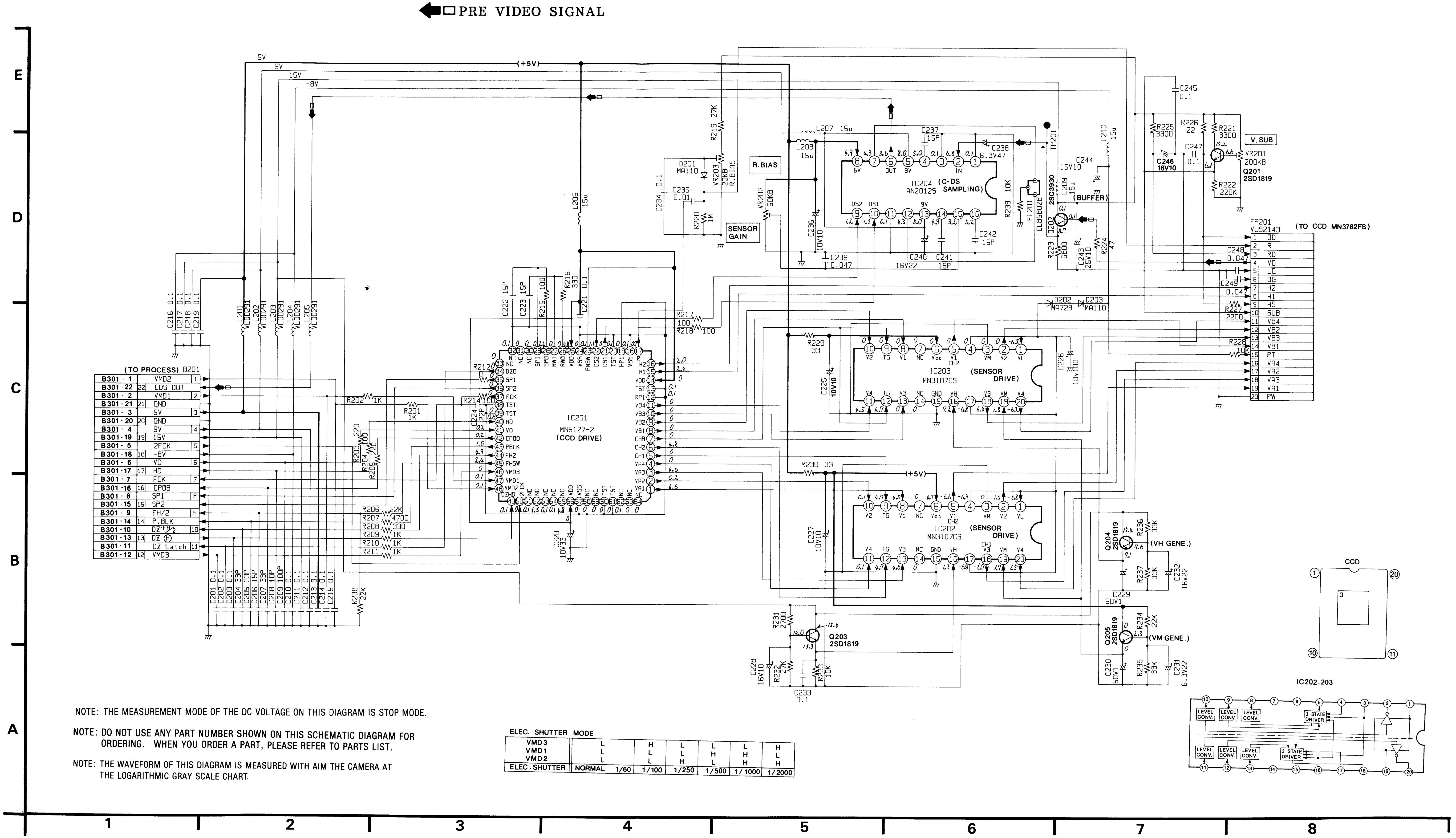
…FORM OF THIS DIAGRAM MEASURED WITH AIM THE CAMERA AT
…RITHMIC GRAY SCALE CHART.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE
WITH AIM THE CAMERA AT THE LOGARITHMIC GRAY SCALE CHART.

4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14

Next Page:
CCD DRIVE Section

3-15. CCD DRIVE SCHEMATIC DIAGRAM


PRE VIDEO SIGNAL
E
D
C
B
A
1
2
3
4
5
6
7
8
5V
9V
15V
-8V
(+5V)
(TO PROCESS) B201
B301 · 1 VMD2
B301 · 22 CDS OUT
B301 · 2 VMD1
B301 · 21 GND
B301 · 3 5V
B301 · 20 GND
B301 · 4 9V
B301 · 19 15V
B301 · 5 2FCK
B301 · 18 -8V
B301 · 6 VD
B301 · 17 HD
B301 · 7 FCK
B301 · 16 CP0B
B301 · 8 SP1
B301 · 15 SP2
B301 · 9 FH/2
B301 · 14 P.BLK
B301 · 10 DZ FH/2
B301 · 13 DZ (H)
B301 · 11 DZ Latch
B301 · 12 VMD3
IC201 MN5127-2 (CCD DRIVE)
IC204 (C·DS SAMPLING) AN2012S
IC203 (SENSOR DRIVE) MN3107CS
IC202 (SENSOR DRIVE) MN3107CS
Q201 2SD1819
Q202 2SC3930 (BUFFER)
Q203 2SD1819
Q204 2SD1819 (VH GENE.)
Q205 2SD1819 (VM GENE.)
R.BIAS
SENSOR GAIN
V.SUB
FP201 VJS2143 (TO CCD MN3762FS)
1 OD
2 R
3 RD
4 VO
5 LG
6 OG
7 H2
8 H1
9 HS
10 SUB
11 VB4
12 VB2
13 VB3
14 VB1
15 PT
16 VA4
17 VA2
18 VA3
19 VA1
20 PW
CCD
IC202, 203
LEVEL CONV.
3 STATE DRIVER

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

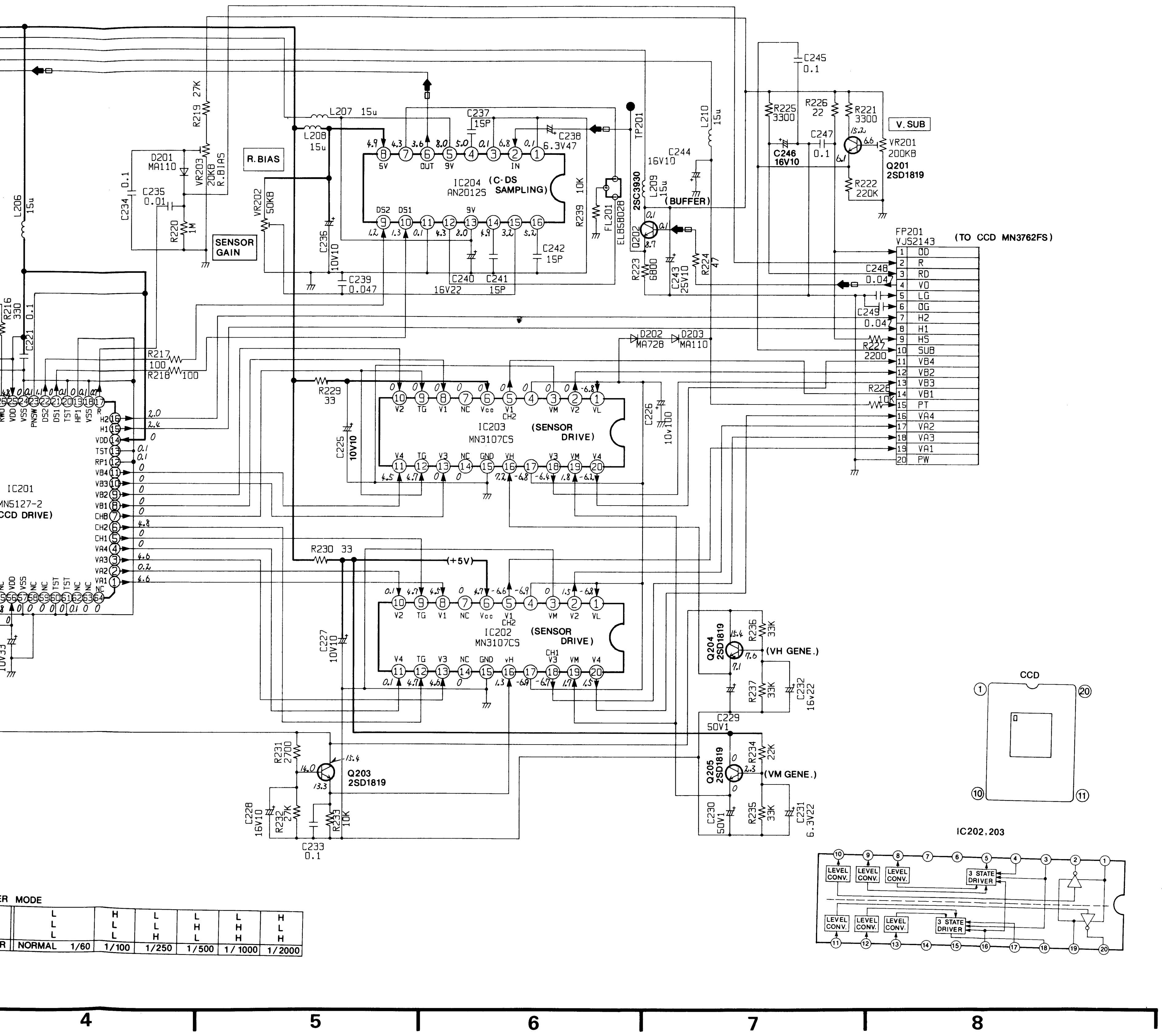
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE WAVEFORM OF THIS DIAGRAM IS MEASURED WITH AIM THE CAMERA AT THE LOGARITHMIC GRAY SCALE CHART.

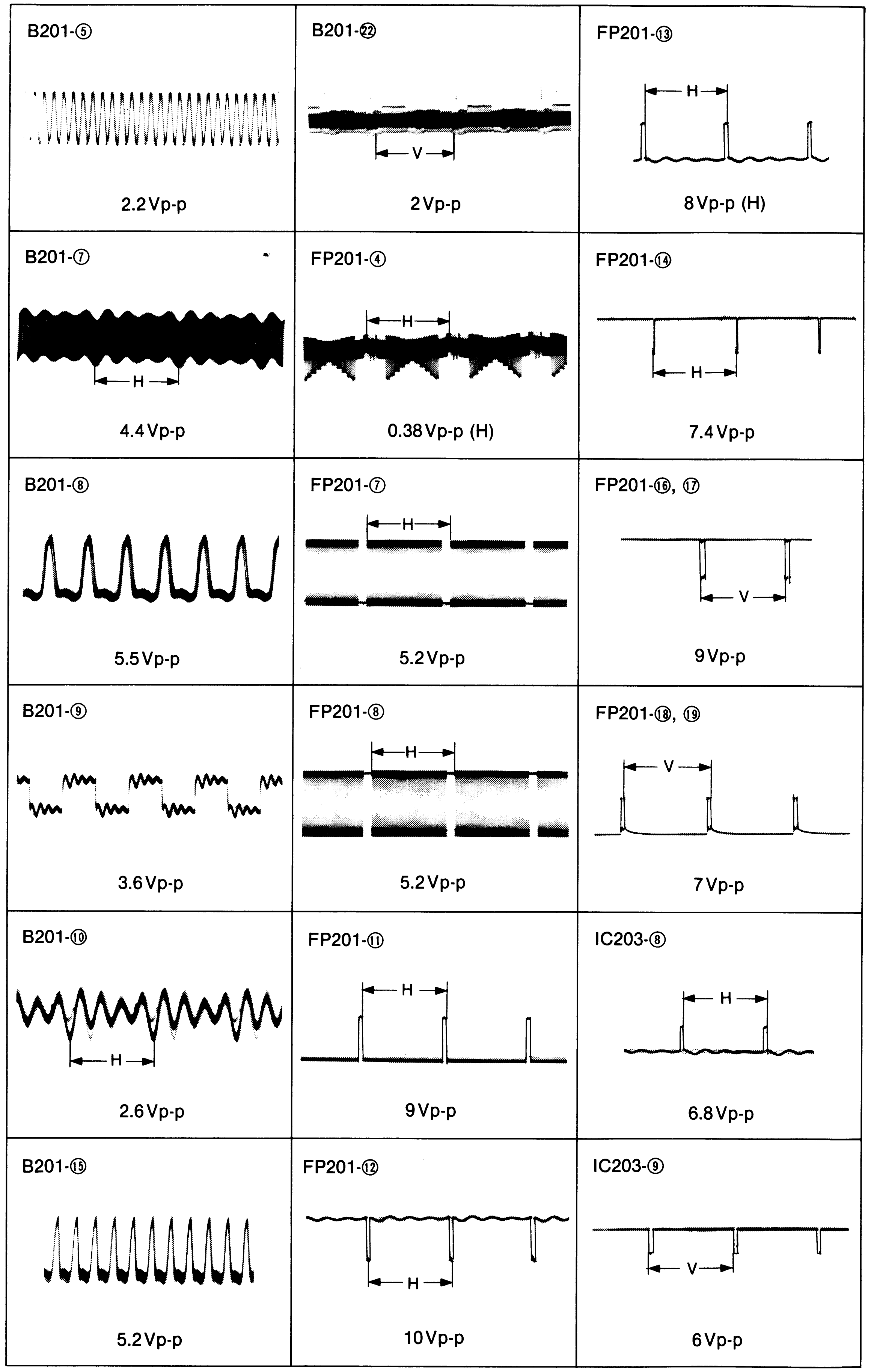
ELEC. SHUTTER MODE

VMD3	L	H	L	L	L	H
VMD1	L	L	L	H	H	L
VMD2	L	L	H	L	H	H
ELEC. SHUTTER	NORMAL 1/60	1/100	1/250	1/500	1/1000	1/2000

IGNAL

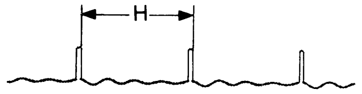

IC201
MN5127-2
(CCD DRIVE)
IC204 (C-DS SAMPLING)
AN2012S
IC203 (SENSOR DRIVE)
MN3107CS
IC202 (SENSOR DRIVE)
MN3107CS
FP201
VJS2143
(TO CCD MN3762FS)
1 OD
2 R
3 RD
4 VO
5 LG
6 OG
7 H2
8 H1
9 HS
10 SUB
11 VB4
12 VB2
13 VB3
14 VB1
15 PT
16 VA4
17 VA2
18 VA3
19 VA1
20 PW
Q202 2SC3930 (BUFFER)
Q201 2SD1819
V.SUB
VR201 200KB
Q204 2SD1819 (VH GENE.)
Q205 2SD1819 (VM GENE.)
Q203 2SD1819
R.BIAS
SENSOR GAIN
VR202 50KB
VR203 20KB R.BIAS
D201 MA110
D202 MA728
D203 MA110
FL201 ELB5B028
TP201
L206 15u
L207 15u
L208 15u
L209 15u
L210 15u
C245 0.1
R225 3300
R226 22
R221 3300
C247 0.1
C246 16V10
R222 220K
C244 16V10
R239 10K
C237 15P
C238 6.3V47
C242 15P
C240 16V22
C241 15P
C239 0.047
C236 10V10
C234 0.1
C235 0.01
R220 1M
R219 27K
R216 330
C221 0.1
R217 100
R218 100
R229 33
R230 33
C225 10V10
C226 10V100
C227 10V10
C248 0.047
C249 0.047
R227 2200
R228 10K
R223 6800
R224 47
C243 25V10
R236 33K
R237 33K
C232 16V22
C229 50V1
R234 22K
R235 33K
C230 50V1
C231 6.3V22
R231 2700
R232 27K
R233 10K
C228 16V10
C233 0.1
(+5V)
CCD
IC202,203
LEVEL CONV.
3 STATE DRIVER
ER MODE
L | H | L | L | L | H
L | L | L | H | H | L
L | L | H | L | H | H
R | NORMAL | 1/60 | 1/100 | 1/250 | 1/500 | 1/1000 | 1/2000
4
5
6
7
8

CCD DRIVE CIRCUIT WAVEFORM (STOP MODE)



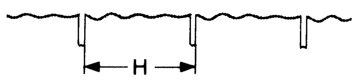
3-16. CCD DRIVE C.B.A. (VEP22090A)

IC203-⑩



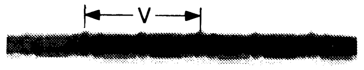
6Vp-p

IC203-⑪, ⑬



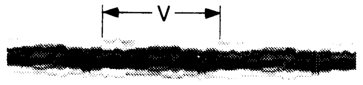
5Vp-p

IC204-②



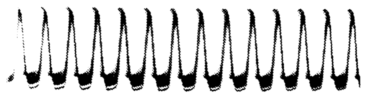
2.3Vp-p

IC204-⑥, ⑦



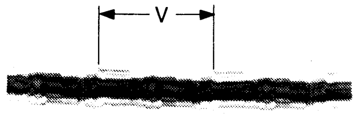
2Vp-p

IC204-⑨, ⑩

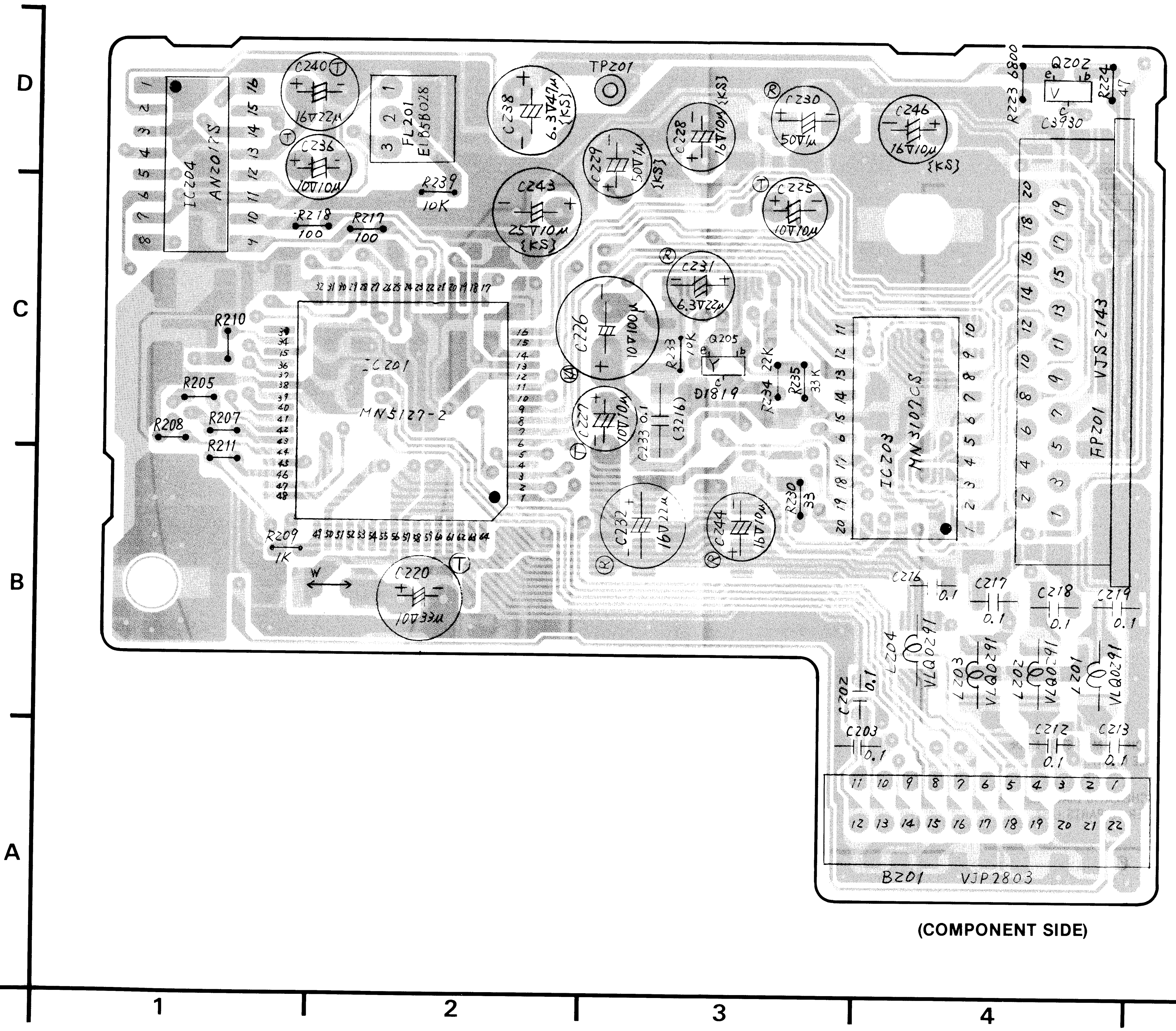


5Vp-p

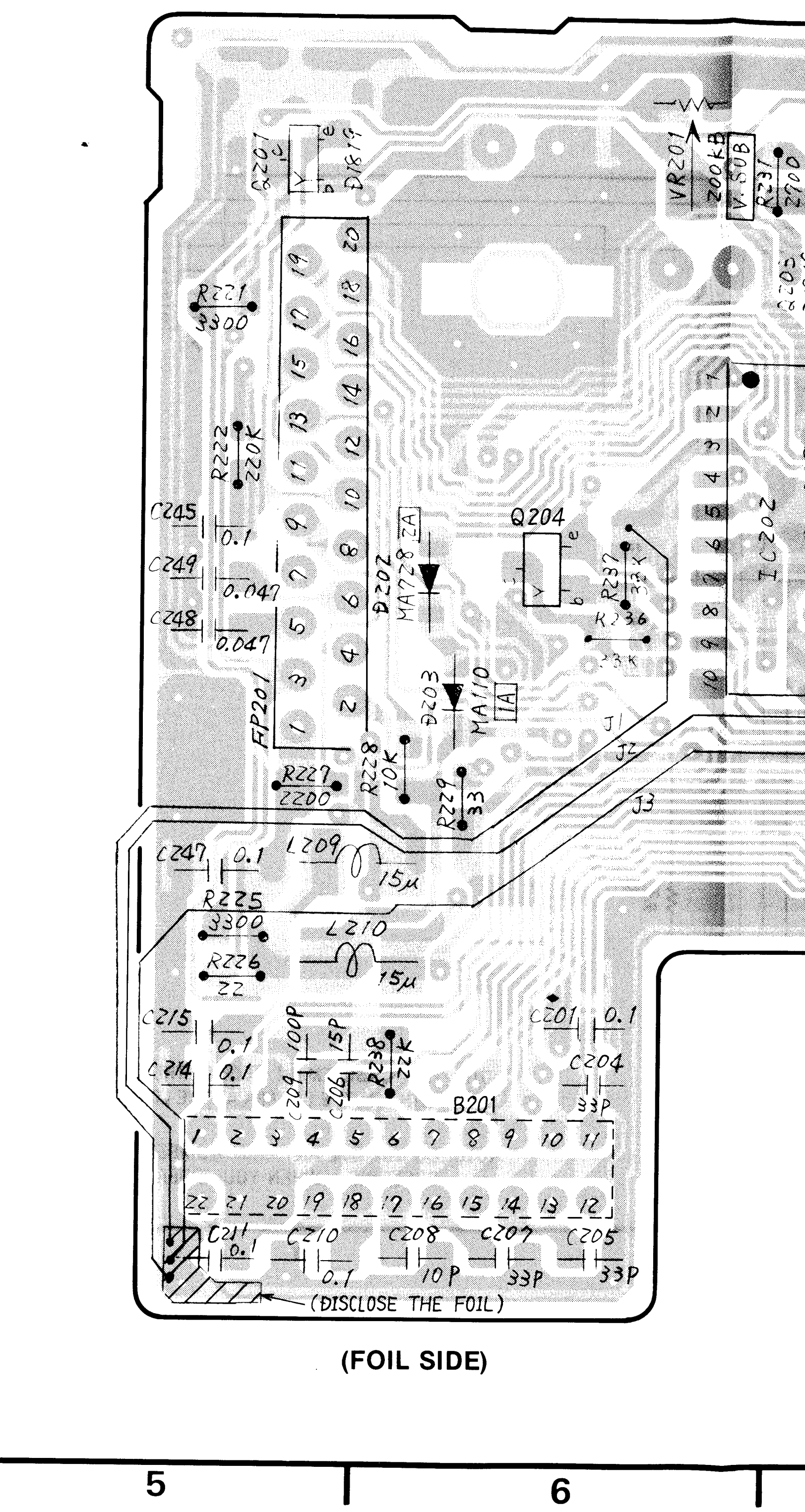
IC204-⑫



2Vp-p


D
C
B
A
1
2
3
4
IC204
AN2017S
C240
C236
FL201
EL85D028
C238
6.3V47μ
TP201
C229
C228
C230
C246
Q202
R223 6800
R224 47
C3930
R239 10K
R218 100
R217 100
C243 25V10μ
C225
C231
C226 10V100μ
R210
R205
R207
R208
R211
IC201
MN5127-2
R209 1K
C220 10V33μ
C227
C233 0.1
Q205
D1819
R233 10K
R234 22K
R235 33K
C232 16V22μ
C244
R230 33
IC203
MN3107CS
FP201
VJS2143
C216
C217
C218
C219
L204
L203
L202
L201
VLQ0291
C202
C203
C212
C213
B201
VJP2803

(COMPONENT SIDE)

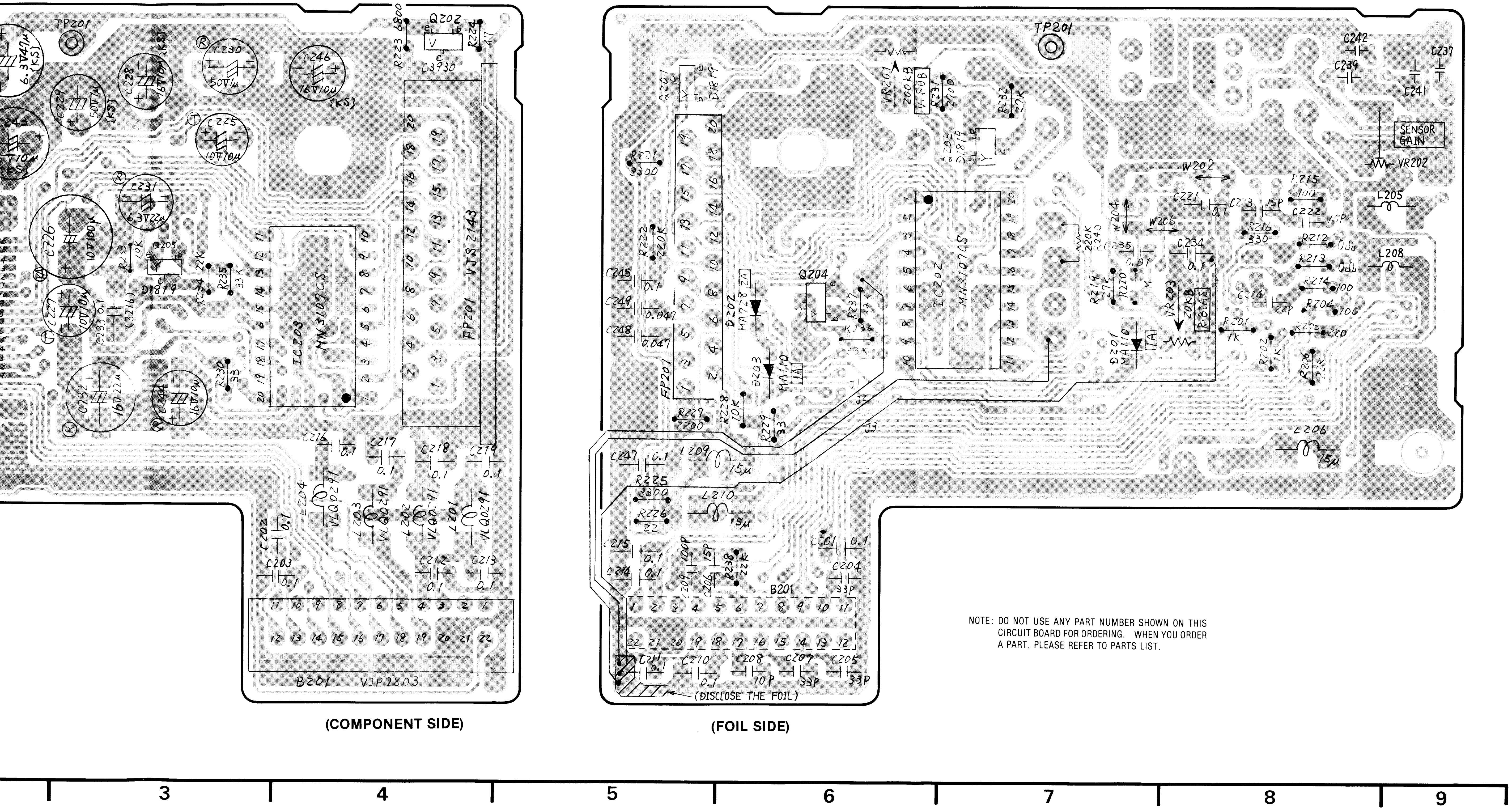

5
6
R201
D1819
VR201 200KB
V.SUB
R231 2700
R232 27K
R221 3300
R222 220K
C245 0.1
C249 0.047
C248 0.047
FP201
D202 MA728
D203 MA110
Q204
R237 33K
R236
IC202
MN3107CS
R227 2200
R228 10K
R229 33
J1
J2
J3
C247 0.1
L209 15μ
R225 3300
L210 15μ
R226 22
C215 0.1
C214 0.1
C204 100P
C206 15P
R238 22K
C201 0.1
C204 33P
B201
C211 0.1
C210 0.1
C208 10P
C207 33P
C205 33P
(DISCLOSE THE FOIL)

(FOIL SIDE)

NOTE: DO NOT US
CIRCUIT BO
A PART, PL

CCD DRIVE C.B.A.	
Transistor	
Q201	D-5 Ⓕ
Q202	D-4 Ⓒ
Q203	C-7 Ⓕ
Q204	C-6 Ⓕ
Q205	C-3 Ⓒ
Integrated Circuit	
IC201	C-2 Ⓒ
IC202	C-6 Ⓕ
IC203	C-4 Ⓒ
IC204	D-1 Ⓒ
Test Point	
TP201	D-3 Ⓒ
TP201	D-7 Ⓕ
Adjustment	
VR201	D-6 Ⓕ
VR202	C-9 Ⓕ
VR203	C-8 Ⓕ
Connector	
B201	A-4 Ⓒ
B201	A-6 Ⓕ
FP201	C-4 Ⓒ
FP201	B-5 Ⓕ

ADDRESS INFORMATION
Ⓒ...COMPONENT SIDE
Ⓕ...FOIL SIDE


TP201
Q202
R223 6800
R224 47
C3930
C230 50V4μ
C246 16V10μ
C228 16V10μ
C229 50V1μ
C225 10V10μ
C226 10V100μ
C231 6.3V22μ
Q205
D1819
R233 10K
R234 22K
R235 33K
C233 0.1
C227 10V10μ
C232 16V22μ
C244 16V10μ
R230 33
IC203 MN3107CS
FP201 VJS2143
C216 0.1
C217 0.1
C218 0.1
C219 0.1
L204 VLQ0291
L203 VLQ0291
L202 VLQ0291
L201 VLQ0291
C202 0.1
C203 0.1
C212 0.1
C213 0.1
B201 VJP2803
TP201
Q201
D1819
VR201 200KB V.SUB
R231 2700
R232 27K
Q203
D1819
R221 3300
R222 220K
C245 0.1
C249 0.047
C248 0.047
FP201
D202 MA728 ZA
D203 MA110 1A
Q204
R237 33K
R236 33K
IC202 MN3107CS
R227 2200
R228 10K
R229 33
J1
J2
J3
C247 0.1
L209 15μ
R225 3300
L210 15μ
R226 22
C215 0.1
C214 0.1
C209 100P
C206 15P
R238 22K
C201 0.1
C204 33P
B201
C211 0.1
C210 0.1
C208 10P
C207 33P
C205 33P
(DISCLOSE THE FOIL)
W202
W204
W206
R240 220K
C235 0.01
R219 27K
R220
VR203 20KB R.BIAS
D201 MA110 1A
C221 0.1
C223 15P
C222 15P
R215 100
R216 330
R212 0.1
R213 0.1
R214 100
C224 22P
R204 100
R205 220
R201 1K
R202 1K
R206 2.2K
C234 0.1
C242
C239
C237
C241
SENSOR GAIN
VR202
L205
L208
L206 15μ
3
4
5
6
7
8
9

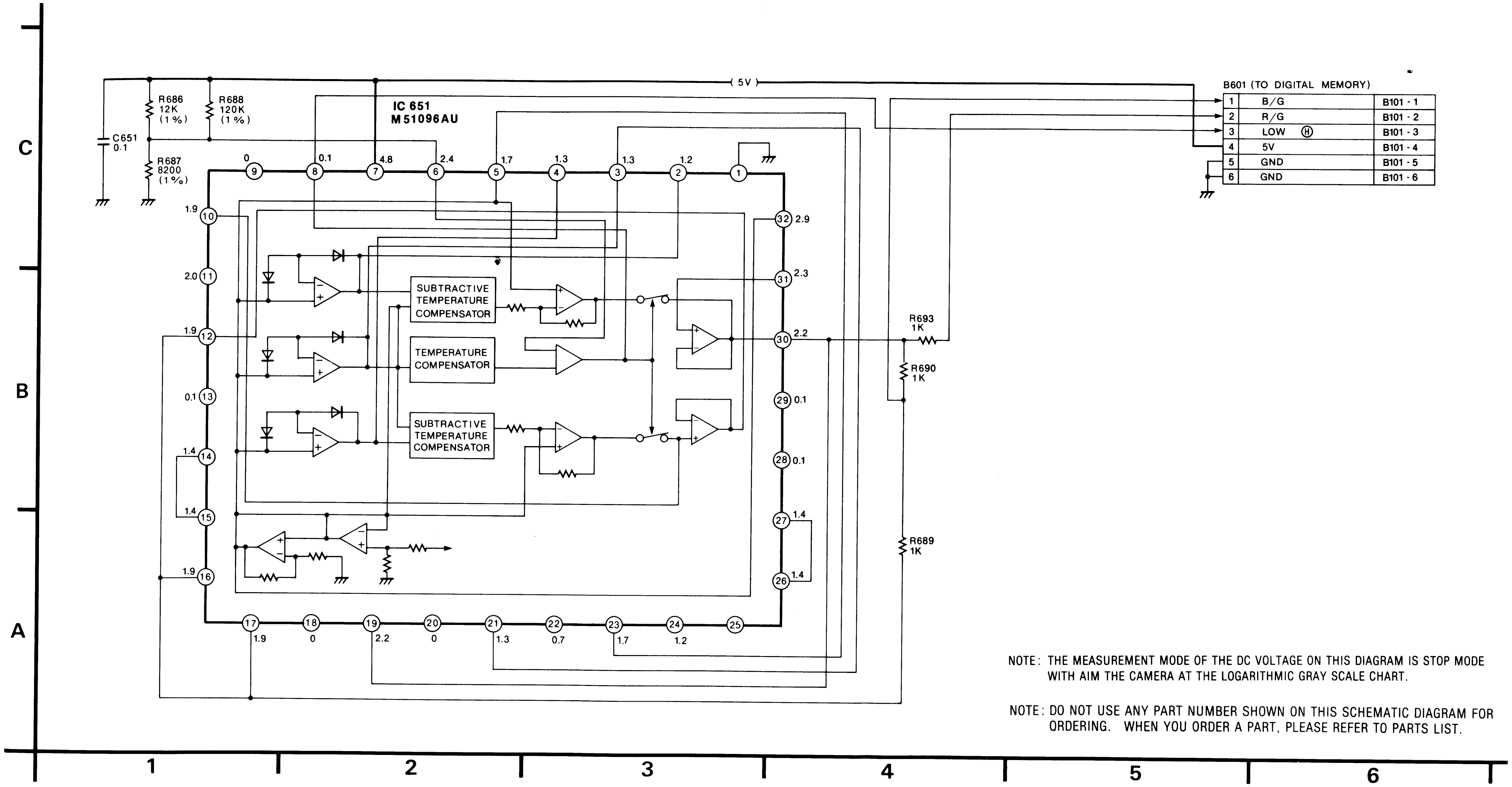
(COMPONENT SIDE)

(FOIL SIDE)

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS CIRCUIT BOARD FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

Next Page:
AWT Section

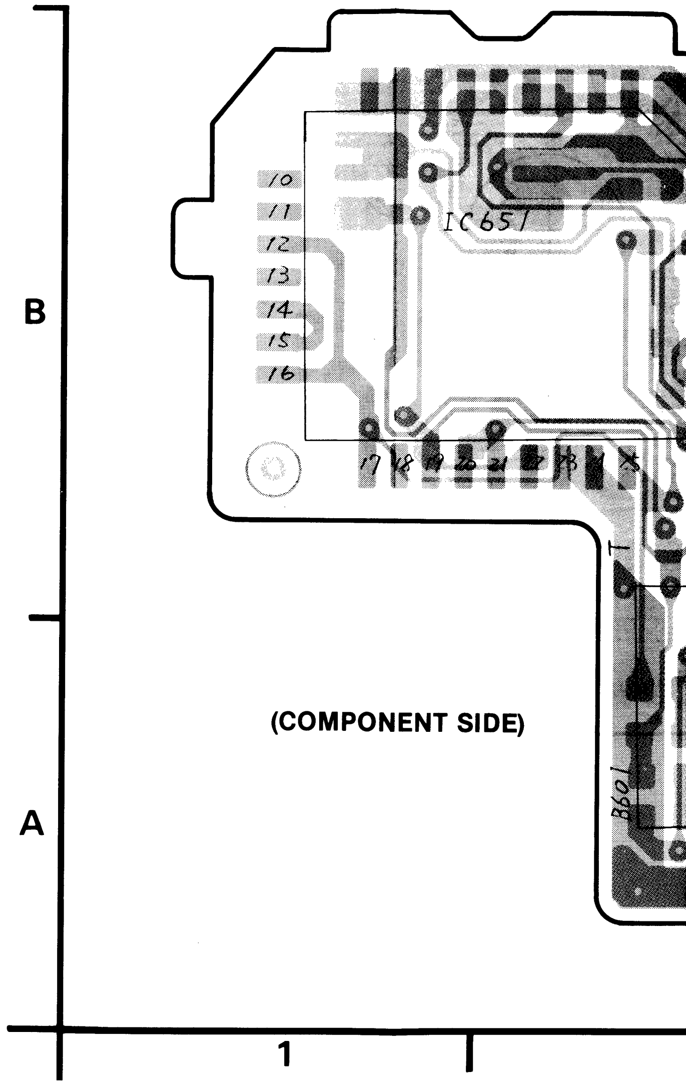
3-17. AWT SCHEMATIC DIAGRAM


5V
R686
12K
(1%)
R688
120K
(1%)
C651
0.1
R687
8200
(1%)
IC 651
M51096AU
SUBTRACTIVE TEMPERATURE COMPENSATOR
TEMPERATURE COMPENSATOR
SUBTRACTIVE TEMPERATURE COMPENSATOR
R693
1K
R690
1K
R689
1K
B601 (TO DIGITAL MEMORY)
1 B/G B101 - 1
2 R/G B101 - 2
3 LOW Ⓗ B101 - 3
4 5V B101 - 4
5 GND B101 - 5
6 GND B101 - 6
C
B
A
1
2
3
4
5
6

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE WITH AIM THE CAMERA AT THE LOGARITHMIC GRAY SCALE CHART.

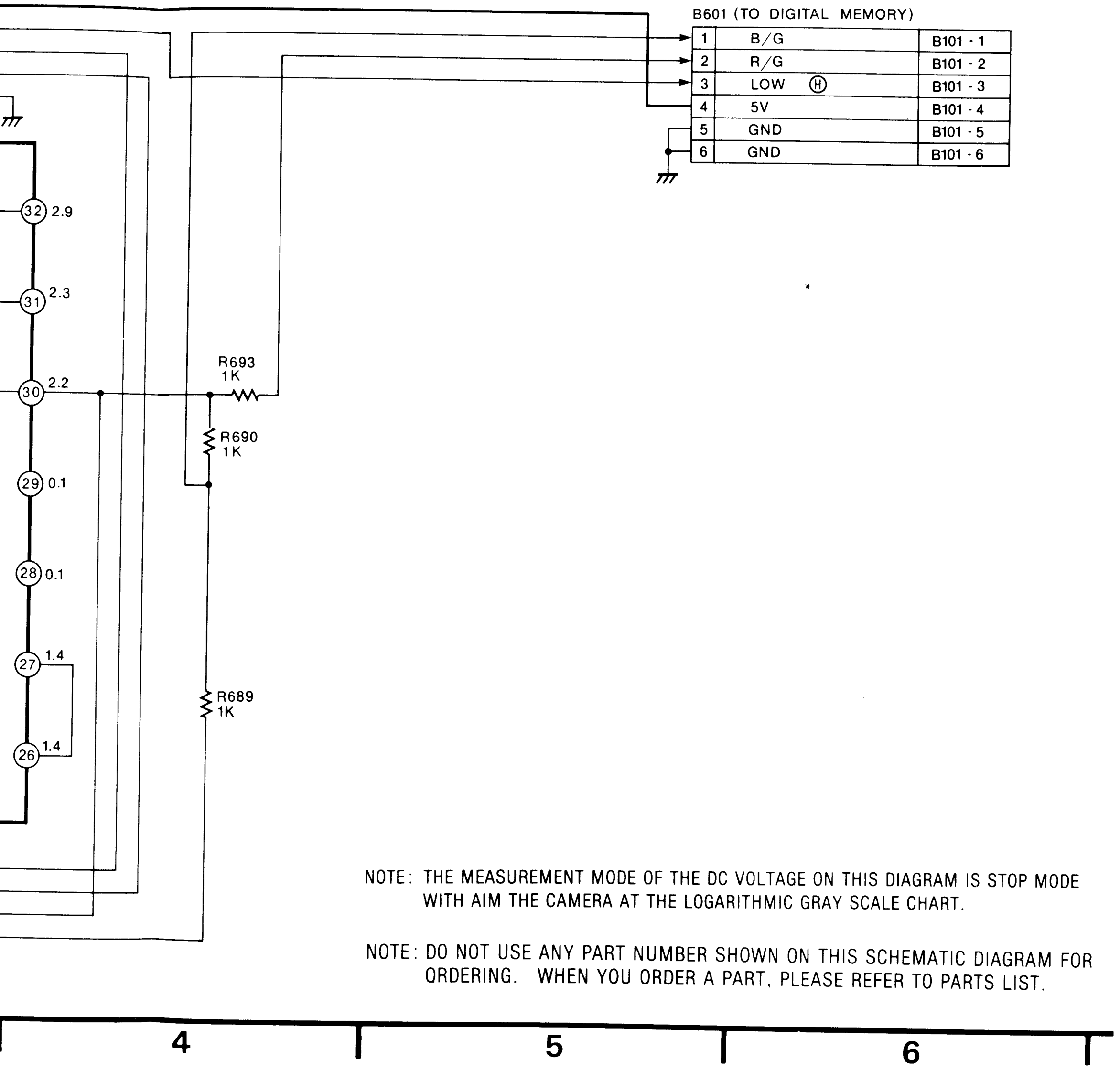
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

3-18. AWT C.B.A. (VEP26061A)


IC651
10
11
12
13
14
15
16
17
18
19
B601
B
A
1

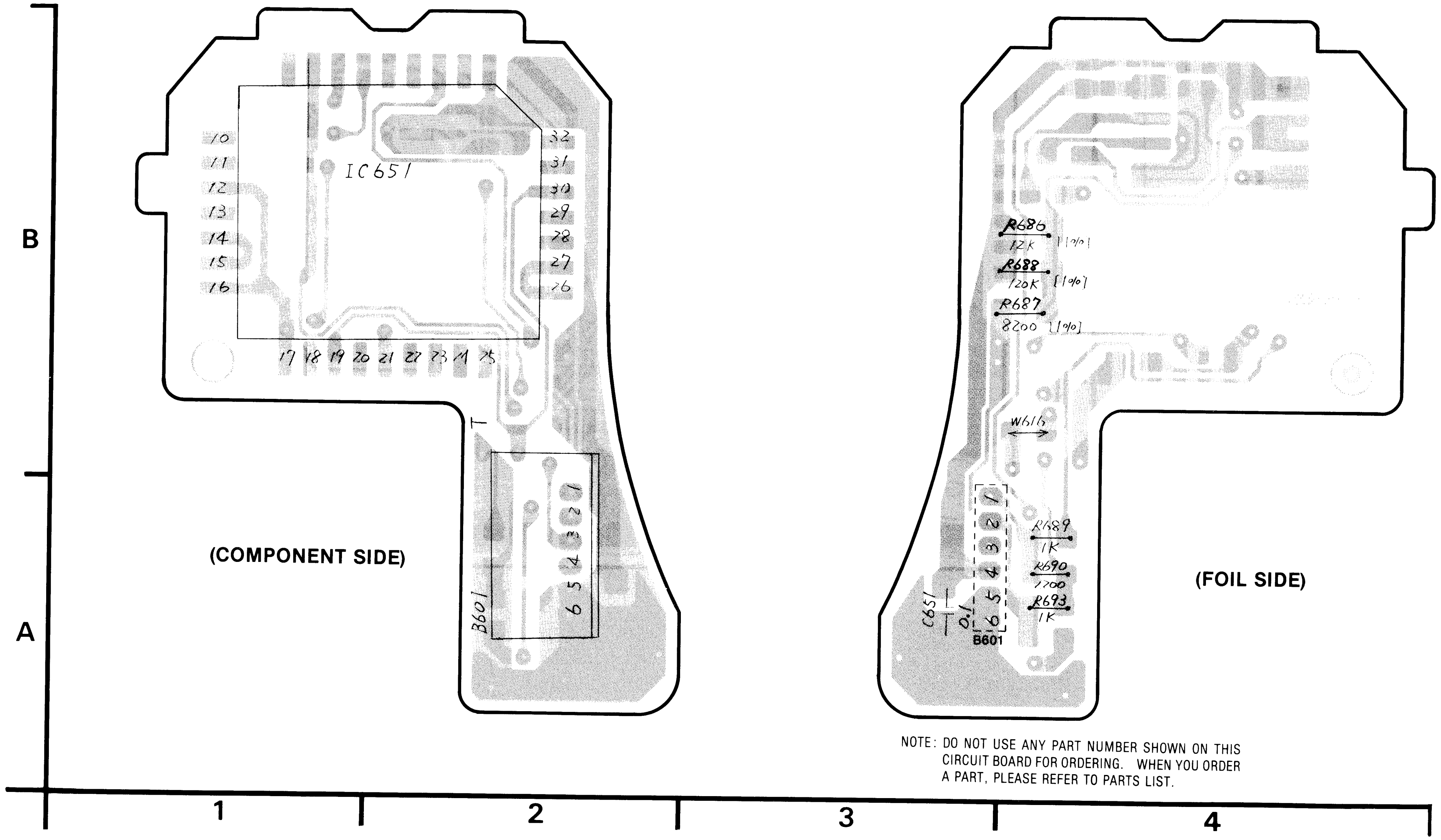
(COMPONENT SIDE)

3-18. AWT C.B.A. (VEP26061A)


B601 (TO DIGITAL MEMORY)
1 B/G B101 · 1
2 R/G B101 · 2
3 LOW Ⓗ B101 · 3
4 5V B101 · 4
5 GND B101 · 5
6 GND B101 · 6
32 2.9
31 2.3
30 2.2
29 0.1
28 0.1
27 1.4
26 1.4
R693 1K
R690 1K
R689 1K
4
5
6

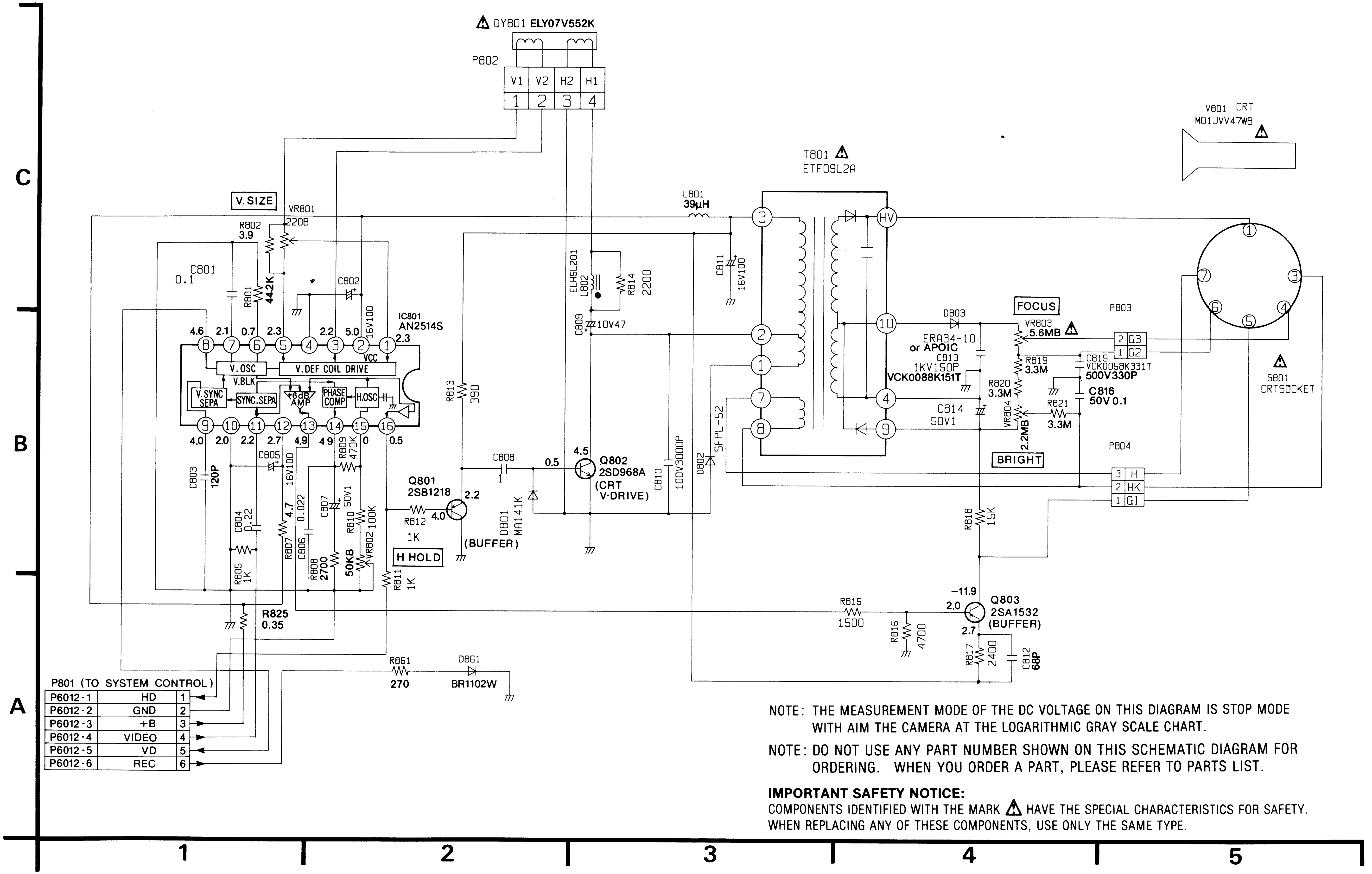
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE WITH AIM THE CAMERA AT THE LOGARITHMIC GRAY SCALE CHART.

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.


B
A
1
2
3
4
IC651
10
11
12
13
14
15
16
17 18 19 20 21 22 23 24 25
26
27
28
29
30
31
32
B601
1 2 3 4 5 6
(COMPONENT SIDE)
R686 12K [1%]
R688 120K [1%]
R687 8200 [1%]
W616
R689 1K
R690 1200
R693 1K
C651 0.1
B601
1 2 3 4 5 6
(FOIL SIDE)

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS CIRCUIT BOARD FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

3-19. E.V.F. SCHEMATIC DIAGRAM



DY801 ELY07V552K
P802
V1 V2 H2 H1
1 2 3 4
V801 CRT
M01JVV47WB
T801
ETF09L2A
L801
39μH
V.SIZE
VR801
220B
R802
3.9
C801
0.1
R801
44.2K
C802
16V100
IC801
AN2514S
V.OSC
V.DEF COIL DRIVE
VCC
V.BLK
V.SYNC SEPA
SYNC.SEPA
+6dB AMP
PHASE COMP
H.OSC
4.6
2.1
0.7
2.3
2.2
5.0
2.3
4.0
2.0
2.2
2.7
4.9
4.9
0
0.5
C803
120P
C805
16V100
C804
0.22
R805
1K
R807
4.7
C806
0.022
C807
50V1
R808
2700
R809
470K
R810
100K
VR802
50KB
R811
1K
H HOLD
R825
0.35
R813
390
Q801
2SB1218
2.2
4.0
R812
1K
(BUFFER)
C808
1
0.5
D801
MA141K
ELH5L201
L802
R814
2200
C809
10V47
4.5
Q802
2SD968A
(CRT V-DRIVE)
C810
100V3000P
D802
SFPL-52
C811
16V100
HV
D803
ERA34-10
or APOIC
C813
1KV150P
VCK0088K151T
C814
50V1
FOCUS
VR803
5.6MB
R819
3.3M
R820
3.3M
VR804
2.2MB
BRIGHT
R821
3.3M
C815
VCK0058K331T
500V330P
C816
50V 0.1
P803
2 G3
1 G2
P804
3 H
2 HK
1 GI
S801
CRTSOCKET
R818
15K
-11.9
2.0
2.7
Q803
2SA1532
(BUFFER)
R815
1500
R816
4700
R817
2400
C812
68P
R861
270
D861
BR1102W
P801 (TO SYSTEM CONTROL)
P6012-1 HD 1
P6012-2 GND 2
P6012-3 +B 3
P6012-4 VIDEO 4
P6012-5 VD 5
P6012-6 REC 6
A
B
C
1
2
3
4
5

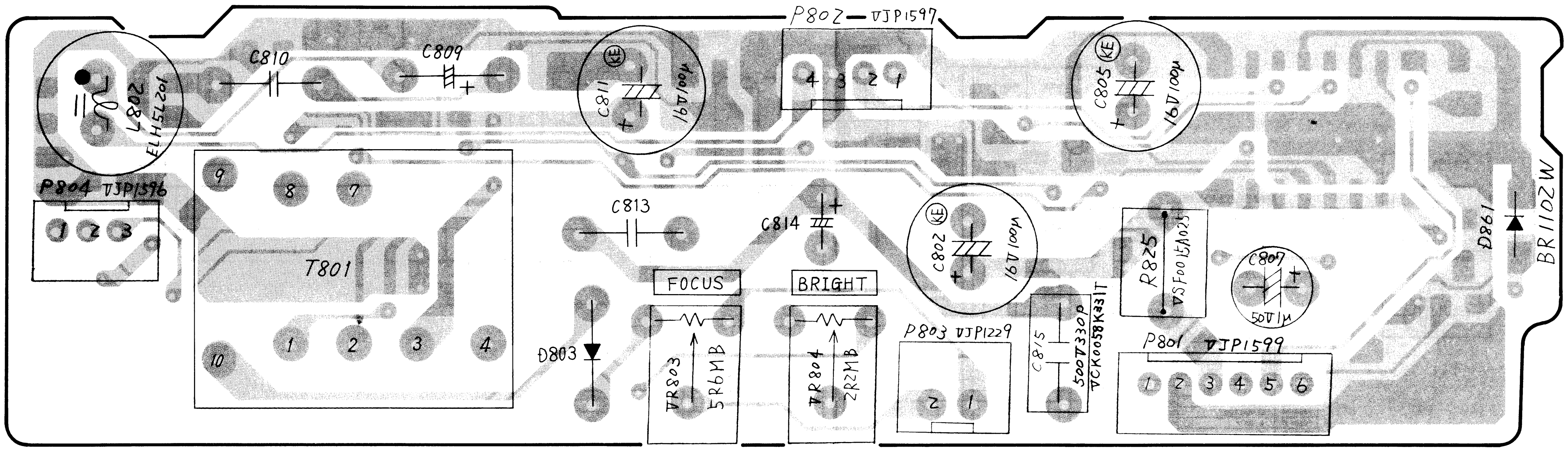
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE WITH AIM THE CAMERA AT THE LOGARITHMIC GRAY SCALE CHART.

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

IMPORTANT SAFETY NOTICE:

COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

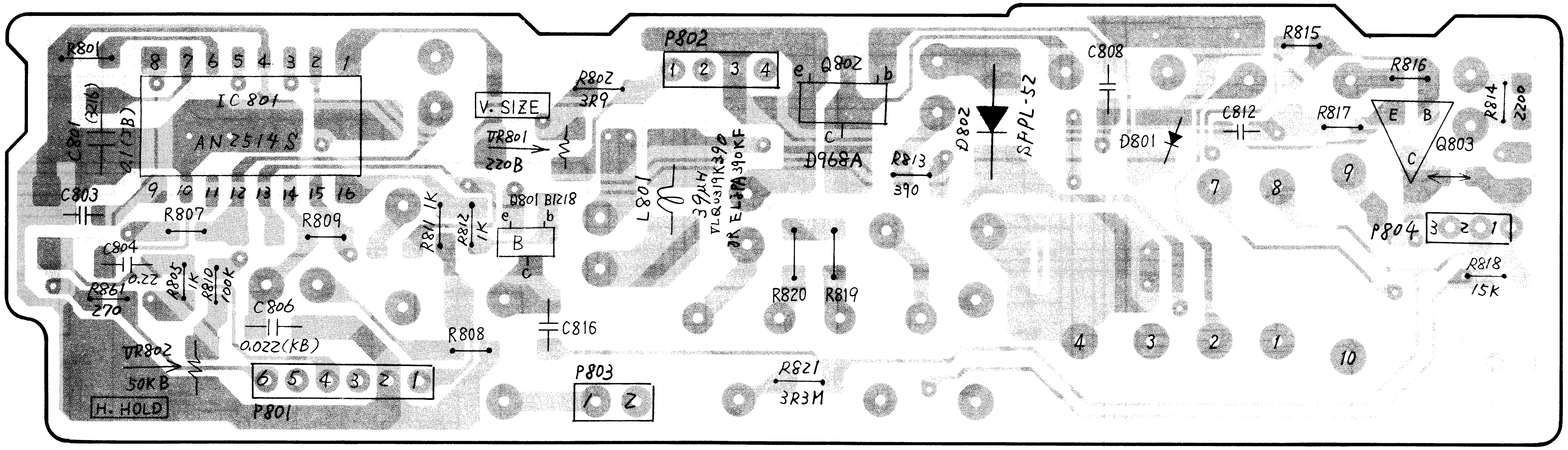
3-20. E.V.F. C.B.A. (VEP28029A)


D
C
P802 — VJP1597
4 3 2 1
C810
C809
C811
16V100µ
C805
16V100µ
L802
ELH5L201
P804 VJP1396
1 2 3
T801
9 8 7
10 1 2 3 4
C813
C814
FOCUS
BRIGHT
VR803
5R6MB
VR804
2R2MB
D803
C802
16V100µ
P803 VJP1229
2 1
C815
500V330p
VCK0058K331T
R825
VSF001JA025
C807
50V1M
P801 VJP1599
1 2 3 4 5 6
D861
BR1102W

(COMPONENT SIDE)

E.V.F. C.B.A.	
Transistor	
Q801	B-2 Ⓕ
Q802	B-3 Ⓕ
Q803	B-5 Ⓕ
Integrated Circuit	
IC801	B-1 Ⓕ
Adjustment	
VR801	B-2 Ⓕ
VR802	A-1 Ⓕ
VR803	C-3 ©
VR804	C-3 ©
Connector	
P801	C-4 ©
P801	A-1 Ⓕ
P802	D-3 ©
P802	B-3 Ⓕ
P803	C-4 ©
P803	A-2 Ⓕ
P804	C-1 ©
P804	A-5 Ⓕ

ADDRESS INFORMATION
©...COMPONENT SIDE
Ⓕ...FOIL SIDE

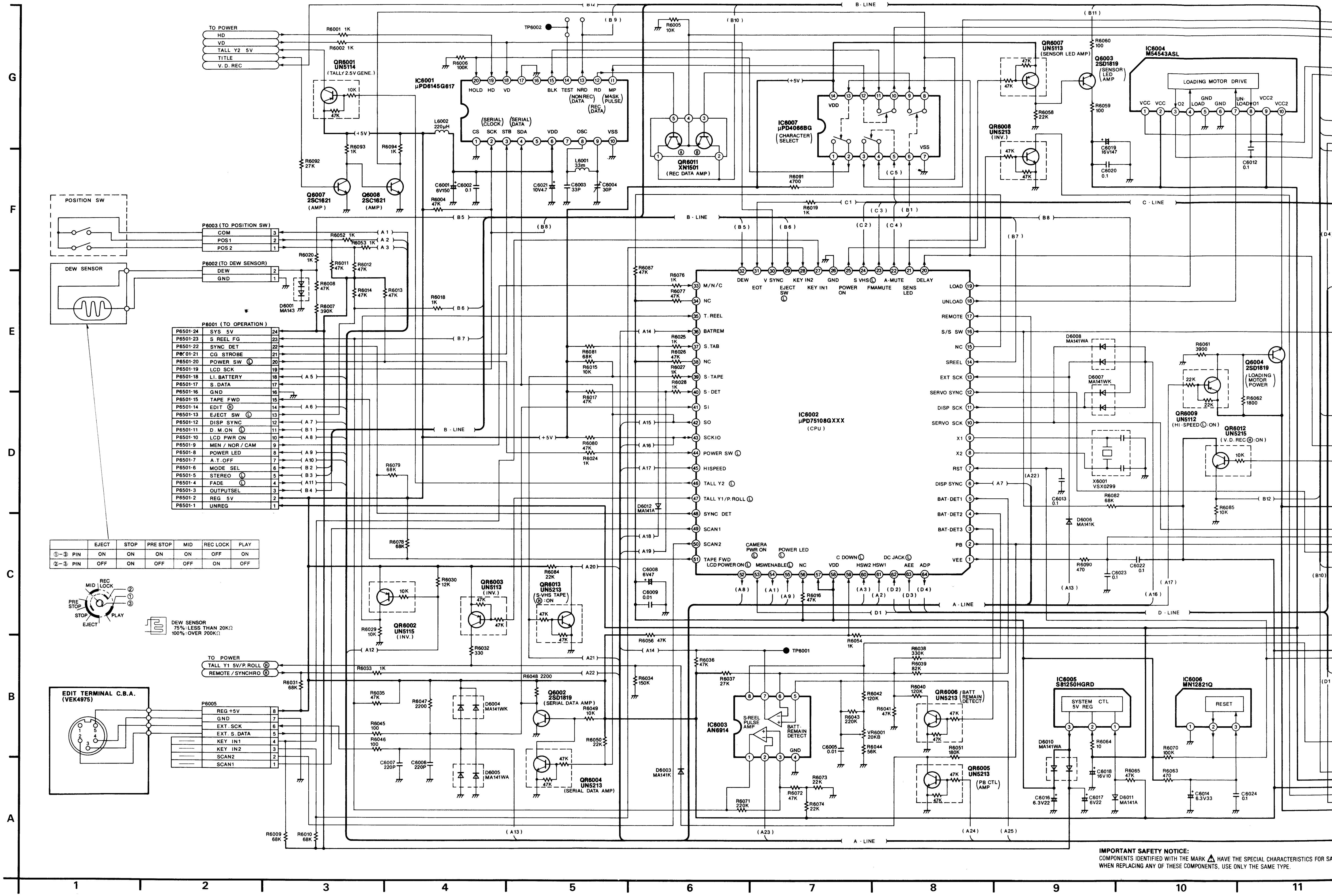

B
A
R801
8 7 6 5 4 3 2 1
IC801
AN2514S
9 10 11 12 13 14 15 16
C801
C803
R807
R809
C804
0.22
R805
1K
R810
100K
R861
270
C806
0.022(KB)
VR802
50KB
H. HOLD
6 5 4 3 2 1
P801
R811 1K
R812 1K
Q801 B1218
e b c
B
V. SIZE
VR801
220B
R802
3R9
R808
C816
P803
1 2
L801
39µH
VLQ0319K390
P802
1 2 3 4
e Q802 b
c
D968A
R813
390
R820
R819
R821
3R3M
D802
SFPL-52
C808
D801
C812
7 8 9
4 3 2 1 10
R815
R816
R817
E B
C
Q803
R814
2200
P804 3 2 1
R818
15K

(FOIL SIDE)

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS
CIRCUIT BOARD FOR ORDERING. WHEN YOU ORDER
A PART, PLEASE REFER TO PARTS LIST.

1 2 3 4 5

3-21. SYSTEM CONTROL SCHEMATIC DIAGRAM


IC6001 μPD6145G617
IC6002 μPD75108GXXX (CPU)
IC6003 AN6914
IC6004 M54543ASL
LOADING MOTOR DRIVE
IC6005 S81250HGRD
SYSTEM CTL 5V REG
IC6006 MN12821Q
RESET
IC6007 μPD4066BG (CHARACTER SELECT)
QR6001 UN5114 (TALLY 2.5V GENE.)
QR6002 UN5115 (INV.)
QR6003 UN5113 (INV.)
QR6004 UN5213 (SERIAL DATA AMP)
QR6005 UN5213 (PB CTL AMP)
QR6006 UN5213 (BATT REMAIN DETECT)
QR6007 UN5113 (SENSOR LED AMP)
QR6008 UN5213 (INV.)
QR6009 UN5112 (HI-SPEED Ⓛ:ON)
QR6011 XN1501 (REC DATA AMP)
QR6012 UN5215 (V.D.REC Ⓗ:ON)
QR6013 UN5213 (S-VHS TAPE) Ⓗ:ON
Q6002 2SD1819 (SERIAL DATA AMP)
Q6003 2SD1819 (SENSOR LED AMP)
Q6004 2SD1819 (LOADING MOTOR POWER)
Q6007 2SC1821 (AMP)
Q6008 2SC1821 (AMP)
X6001 VSX0299
TO POWER
HD
VD
TALL Y2 5V
TITLE
V.D.REC
POSITION SW
P6003 (TO POSITION SW)
COM
POS1
POS2
DEW SENSOR
P6002 (TO DEW SENSOR)
DEW
GND
P6001 (TO OPERATION)
P6501-24 SYS 5V
P6501-23 S REEL FG
P6501-22 SYNC DET
P6501-21 CG STROBE
P6501-20 POWER SW Ⓛ
P6501-19 LCD SCK
P6501-18 LI. BATTERY
P6501-17 S.DATA
P6501-16 GND
P6501-15 TAPE FWD
P6501-14 EDIT Ⓗ
P6501-13 EJECT SW Ⓛ
P6501-12 DISP SYNC
P6501-11 D.M.ON Ⓛ
P6501-10 LCD PWR ON
P6501-9 MEN / NOR / CAM
P6501-8 POWER LED
P6501-7 A.T.OFF
P6501-6 MODE SEL
P6501-5 STEREO Ⓛ
P6501-4 FADE Ⓛ
P6501-3 OUTPUTSEL
P6501-2 REG 5V
P6501-1 UNREG
DEW SENSOR 75%:LESS THAN 20KΩ 100%:OVER 200KΩ
TO POWER
TALL Y1 5V/P.ROLL Ⓗ
REMOTE / SYNCHRO Ⓗ
EDIT TERMINAL C.B.A. (VEK4975)
P6005
REG +5V
GND
EXT. SCK
EXT. S. DATA
KEY IN1
KEY IN2
SCAN2
SCAN1
B-LINE
C-LINE
A-LINE
D-LINE
TP6001
TP6002

	EJECT	STOP	PRE STOP	MID	REC LOCK	PLAY
①-③ PIN	ON	ON	ON	ON	OFF	ON
②-③ PIN	OFF	ON	OFF	OFF	ON	OFF

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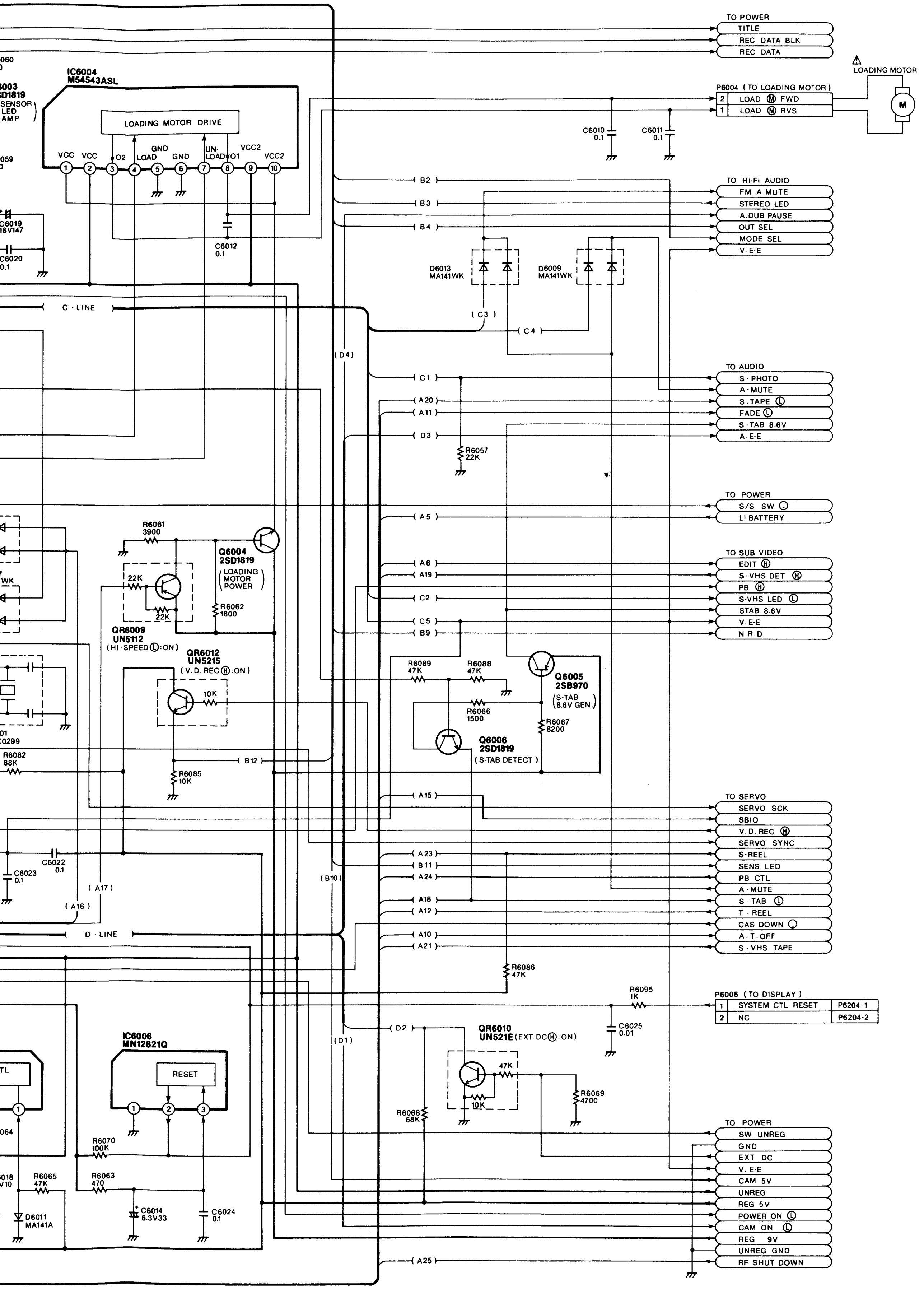
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

Back Page:
E.V.F. Section


IC6004
M54543ASL
LOADING MOTOR DRIVE
VCC
VCC
O2
LOAD
GND
GND
UN-LOAD
O1
VCC2
VCC2
C6012
0.1
C6019
16V147
C6020
0.1
C · LINE
D · LINE
TO POWER
TITLE
REC DATA BLK
REC DATA
LOADING MOTOR
P6004 (TO LOADING MOTOR)
LOAD Ⓜ FWD
LOAD Ⓜ RVS
C6010
0.1
C6011
0.1
TO Hi-Fi AUDIO
FM A MUTE
STEREO LED
A.DUB PAUSE
OUT SEL
MODE SEL
V.E-E
D6013
MA141WK
D6009
MA141WK
TO AUDIO
S · PHOTO
A · MUTE
S · TAPE Ⓛ
FADE Ⓛ
S · TAB 8.6V
A.E-E
R6057
22K
TO POWER
S/S SW Ⓛ
LI BATTERY
TO SUB VIDEO
EDIT Ⓗ
S · VHS DET Ⓗ
PB Ⓗ
S · VHS LED Ⓛ
STAB 8.6V
V.E-E
N.R.D
R6061
3900
Q6004
2SD1819
(LOADING MOTOR POWER)
R6062
1800
QR6009
UN5112
(HI · SPEED Ⓛ : ON)
QR6012
UN5215
(V.D.REC Ⓗ : ON)
R6085
10K
R6082
68K
R6089
47K
R6088
47K
R6066
1500
Q6006
2SD1819
(S-TAB DETECT)
Q6005
2SB970
(S-TAB 8.6V GEN)
R6067
8200
C6022
0.1
C6023
0.1
TO SERVO
SERVO SCK
SBIO
V.D.REC Ⓗ
SERVO SYNC
S · REEL
SENS LED
PB CTL
A · MUTE
S · TAB Ⓛ
T · REEL
CAS DOWN Ⓛ
A.T.OFF
S · VHS TAPE
R6086
47K
R6095
1K
P6006 (TO DISPLAY)
SYSTEM CTL RESET
NC
P6204-1
P6204-2
C6025
0.01
QR6010
UN521E (EXT.DC Ⓗ : ON)
R6069
4700
R6068
68K
IC6006
MN12821Q
RESET
R6070
100K
R6065
47K
R6063
470
D6011
MA141A
C6014
6.3V33
C6024
0.1
TO POWER
SW UNREG
GND
EXT DC
V.E-E
CAM 5V
UNREG
REG 5V
POWER ON Ⓛ
CAM ON Ⓛ
REG 9V
UNREG GND
RF SHUT DOWN
B2
B3
B4
C3
C4
D4
C1
A20
A11
D3
A5
A6
A19
C2
C5
B9
B12
A15
A23
B11
A24
A18
A12
A10
A21
A17
A16
B10
D2
D1
A25

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10 11 12 13

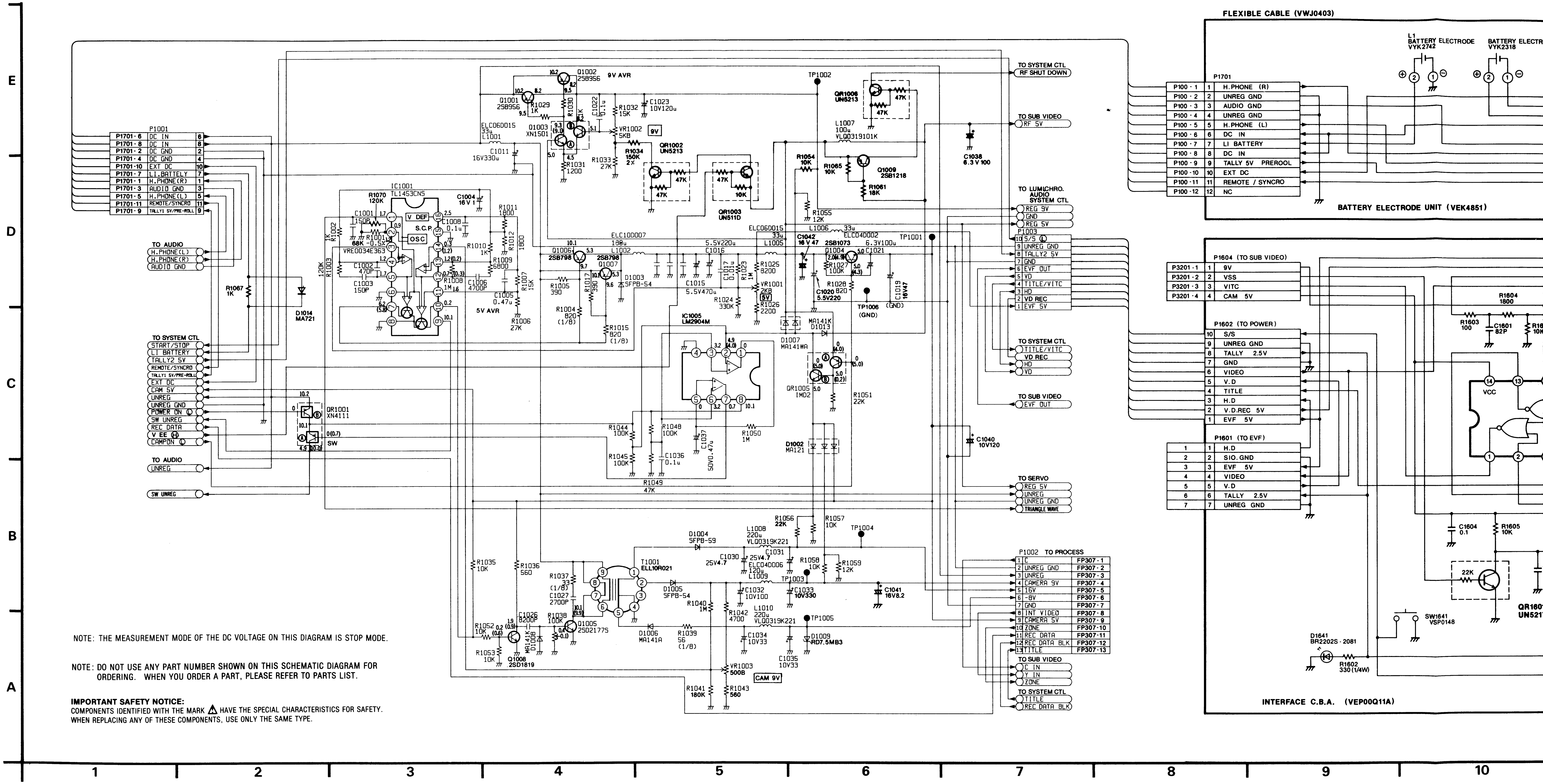
SYSTEM CONTROL ICs DC VOLTAGE CHART

REF. NO.	IC6001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
PLAY	0	4.1	0	3.2	0	5.0	1.3	2.4	2.4	0	0.7	0	0	0	0.1	0	0	4.7	0	4.8
REC	0	3.7	0	3.0	0	5.0	1.3	2.4	2.4	0	0.7	0.1	0	0	0	0	0	4.7	0	4.8
REF. NO.	IC6002																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
PLAY	0	0	4.7	4.7	4.7	4.7	4.7	2.6	2.4	0.4	4.4	0.3	0.4	0.5	0	5.0	4.7	0	0	4.7
REC	4.7	0	4.7	4.7	4.7	4.7	4.7	2.6	2.4	4.8	4.4	4.7	4.5	4.9	0	4.9	4.2	0	0	4.7
REF. NO.	IC6002																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
PLAY	4.7	0	0	4.7	0.1	0.1	4.7	4.7	4.7	0.1	0.1	0	0	4.7	0.1	5.0	0.4	0.1	0	0.1
REC	4.7	0.2	0	0.1	4.7	0	4.6	4.6	4.7	4.7	0	0	0.3	0.2	0.2	4.9	0.4	0.3	0.3	0.2
REF. NO.	IC6002																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
PLAY	3.8	3.1	4.0	4.7	8.1	5.0	5.0	5.0	0.2	0.2	3.0	0	5.0	0	0.2	0	4.8	4.8	0.1	0.4
REC	3.6	0.4	0.4	4.7	0.4	0.4	0.3	0.3	0.3	0.2	0.2	0	0	0	0.3	4.7	4.8	0	0.1	4.7
REF. NO.	IC6002																			
MODE	61	62	63	64																
PLAY	0.3	0	0	0																
REC	0	0	4.7	0																
REF. NO.	IC6003										IC6004									
MODE	1	2	3	4	5	6	7	8			1	2	3	4	5	6	7	8	9	10
PLAY	4.9	4.7	2.9	0	3.3	2.9	4.8	10.1			4.9	10.2	0.9	0	0	0	0	0.5	10.2	4.9
REC	4.9	4.9	2.0	0	3.4	2.9	5.0	10.0			4.9	10.1	0.8	0	0	0	0	0.4	10.1	4.9
REF. NO.	IC6005										IC6006									
MODE	1	2	3								1	2	3							
PLAY	0.5	10.0	5.4								0	4.7	4.8							
REC	0.5	10.0	5.4								0	4.7	4.8							
REF. NO.	IC6007																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14						
PLAY	4.8	4.8	1.0	0	0	0	0	0	0.4	0	0.1	0	4.7	5.0						
REC	4.8	4.8	0	0	4.7	4.9	0	0	0	0	0.1	0	4.7	5.0						

SYSTEM CONTROL TRANSISTORs DC VOLTAGE CHART

REF. NO.	Q6002			Q6003			Q6004			Q6005			Q6006					
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B			
PLAY	0	3.8	0.2	0	0	0	5.0	8.2	5.6	8.1	8.2	7.5	0	0.1	0.7			
REC	0	3.6	0.2	0.2	10.1	0	4.9	8.1	5.5	8.1	8.1	7.4	0	0.1	0.7			
REF. NO.	QR6001			QR6002			QR6003			QR6004			QR6005			QR6006		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
PLAY	0.1	0.1	4.9	5.0	5.0	5.0	5.0	1.3	5.0	0	0.2	3.2	0	0.1	5.0	0	0	4.7
REC	5.0	3.9	0	5.0	5.0	5.0	5.0	5.0	0	0	0.2	3.1	0	0	0	0	0.2	4.7
REF. NO.	QR6007			QR6008			QR6009			QR6010			QR6011 Ⓐ			QR6011 Ⓑ		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
PLAY	5.0	0	4.7	0	0	4.7	8.2	5.6	8.0	0	0	10.6	0	2.0	0.2	0	2.0	0
REC	5.0	0	4.7	0	0	4.7	8.1	5.5	8.1	0	0	10.5	0.1	4.9	0	0.1	4.9	0
REF. NO.	QR6013																	
MODE	E	C	B															
PLAY	0	3.5	0															
REC	0	3.5	0															

3-22. POWER SUPPLY SCHEMATIC DIAGRAM



FLEXIBLE CABLE (VWJ0403)
P1001
P1701-6 DC IN
P1701-8 DC IN
P1701-2 DC GND
P1701-4 DC GND
P1701-10 EXT DC
P1701-7 LI.BATTELY
P1701-1 H.PHONE(R)
P1701-3 AUDIO GND
P1701-5 H.PHONE(L)
P1701-11 REMOTE/SYNCRO
P1701-9 TALLY1 5V/PRE-ROLL
TO AUDIO
H.PHONE(L)
H.PHONE(R)
AUDIO GND
TO SYSTEM CTL
START/STOP
LI BATTERY
TALLY2 5V
REMOTE/SYNCRO
TALLY1 5V/PRE-ROLL
EXT DC
CAM 5V
UNREG
UNREG GND
POWER ON
SW UNREG
REC DATA
V EE
CAMPON
TO AUDIO
UNREG
SW UNREG
IC1001 TL1453CNS
V DEF
S.C.P
OSC
5V AVR
9V AVR
Q1001 2SB956
Q1002 2SB956
Q1003 XN1501
QR1002 UN5213
QR1003 UN511D
QR1001 XN4111
IC1005 LM2904M
QR1005 IMD2
D1002 MA121
D1007 MA141WA
D1013 MA141K
D1014 MA721
Q1004 2SB1073
Q1006 2SB798
Q1007 2SB798
D1003 SFPB-54
QR1006 UN5213
Q1009 2SB1218
T1001 ELL10R021
Q1005 2SD2177S
Q1008 2SD1819
D1004 SFPB-59
D1005 SFPB-54
D1006 MA141A
D1008 MA141K
D1009 RD7.5MB3
TP1001
TP1002
TP1003
TP1004
TP1005
TP1006 (GND)
CAM 9V
TO SYSTEM CTL
RF SHUT DOWN
TO SUB VIDEO
RF 5V
TO LUMI/CHRO. AUDIO SYSTEM CTL
REG 9V
GND
REG 5V
P1003
S/S
UNREG GND
TALLY2 5V
GND
EVF OUT
VD
TITLE/VITC
HD
VD REC
EVF 5V
TO SYSTEM CTL
TITLE/VITC
VD REC
HD
VD
TO SUB VIDEO
EVF OUT
TO SERVO
REG 5V
UNREG
UNREG GND
TRIANGLE WAVE
P1002 TO PROCESS
C FP307-1
UNREG GND FP307-2
UNREG FP307-3
CAMERA 9V FP307-4
16V FP307-5
-8V FP307-6
GND FP307-7
INT VIDEO FP307-8
CAMERA 5V FP307-9
ZONE FP307-10
REC DATA FP307-11
REC DATA BLK FP307-12
TITLE FP307-13
TO SUB VIDEO
C IN
Y IN
ZONE
TO SYSTEM CTL
TITLE
REC DATA BLK
P1701
P100-1 H.PHONE (R)
P100-2 UNREG GND
P100-3 AUDIO GND
P100-4 UNREG GND
P100-5 H.PHONE (L)
P100-6 DC IN
P100-7 LI BATTERY
P100-8 DC IN
P100-9 TALLY 5V PREROOL
P100-10 EXT DC
P100-11 REMOTE / SYNCRO
P100-12 NC
L1 BATTERY ELECTRODE VYK2742
BATTERY ELECTR VYK2318
BATTERY ELECTRODE UNIT (VEK4851)
P1604 (TO SUB VIDEO)
P3201-1 9V
P3201-2 VSS
P3201-3 VITC
P3201-4 CAM 5V
P1602 (TO POWER)
S/S
UNREG GND
TALLY 2.5V
GND
VIDEO
V.D
TITLE
H.D
V.D.REC 5V
EVF 5V
P1601 (TO EVF)
H.D
SIO.GND
EVF 5V
VIDEO
V.D
TALLY 2.5V
UNREG GND
VCC
SW1641 VSP0148
D1641 BR2202S-2081
INTERFACE C.B.A. (VEP00Q11A)
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

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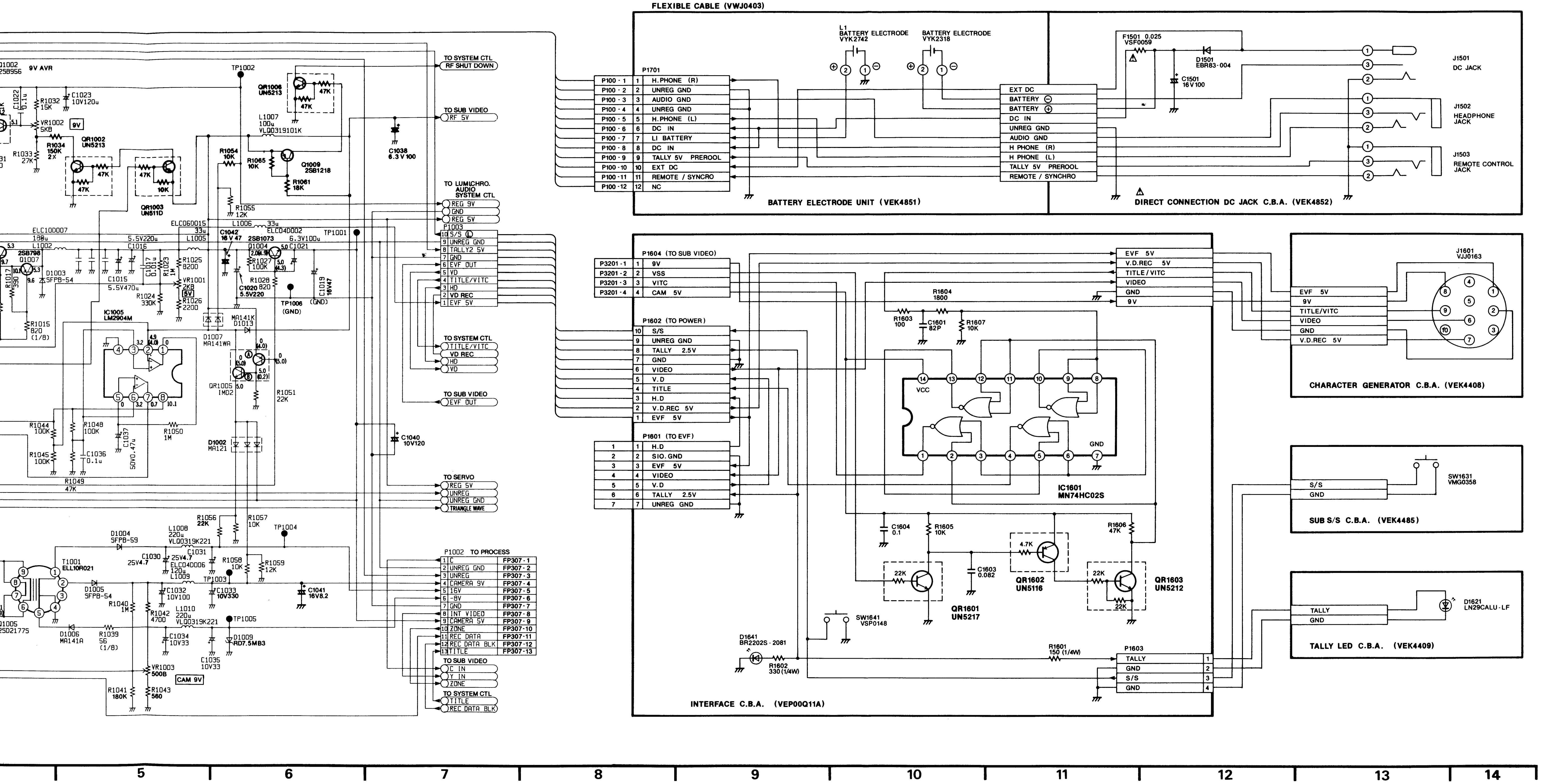
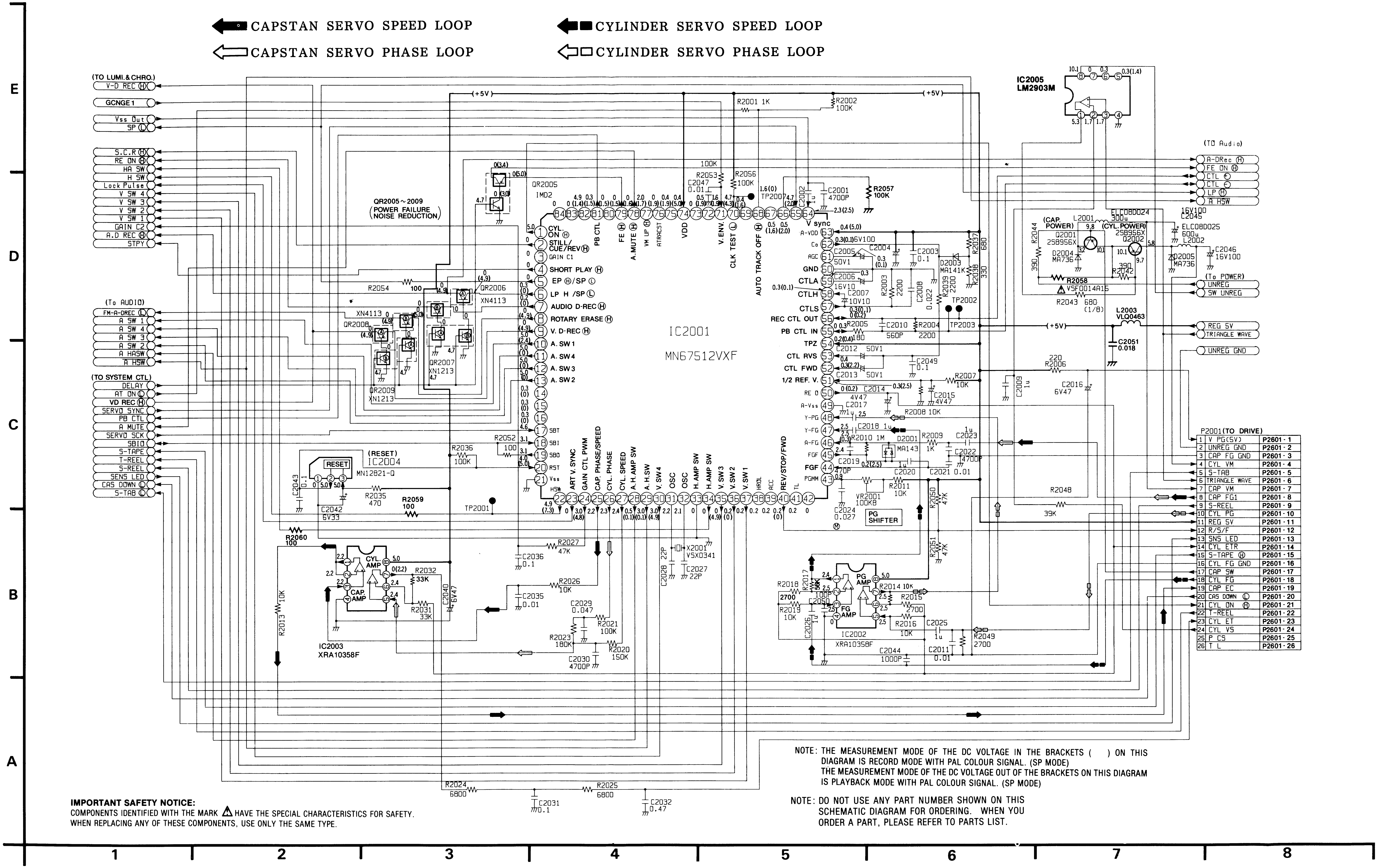

FLEXIBLE CABLE (VWJ0403)
P1701
P100·1 H.PHONE (R)
P100·2 UNREG GND
P100·3 AUDIO GND
P100·4 UNREG GND
P100·5 H.PHONE (L)
P100·6 DC IN
P100·7 LI BATTERY
P100·8 DC IN
P100·9 TALLY 5V PREROOL
P100·10 EXT DC
P100·11 REMOTE / SYNCRO
P100·12 NC
L1 BATTERY ELECTRODE VYK2742
BATTERY ELECTRODE VYK2318
BATTERY ELECTRODE UNIT (VEK4851)
EXT DC
BATTERY ⊖
BATTERY ⊕
DC IN
UNREG GND
AUDIO GND
H PHONE (R)
H PHONE (L)
TALLY 5V PREROOL
REMOTE / SYNCHRO
F1501 0.025 VSF0059
D1501 EBR83-004
C1501 16V100
J1501 DC JACK
J1502 HEADPHONE JACK
J1503 REMOTE CONTROL JACK
DIRECT CONNECTION DC JACK C.B.A. (VEK4852)
P1604 (TO SUB VIDEO)
P3201·1 9V
P3201·2 VSS
P3201·3 VITC
P3201·4 CAM 5V
P1602 (TO POWER)
S/S
UNREG GND
TALLY 2.5V
GND
VIDEO
V.D
TITLE
H.D
V.D.REC 5V
EVF 5V
P1601 (TO EVF)
H.D
SIO.GND
EVF 5V
VIDEO
V.D
TALLY 2.5V
UNREG GND
R1604 1800
R1603 100
C1601 82P
R1607 10K
IC1601 MN74HC02S
VCC
GND
C1604 0.1
R1605 10K
C1603 0.082
R1606 47K
QR1601 UN5217
QR1602 UN5116
QR1603 UN5212
SW1641 VSP0148
D1641 BR2202S-2081
R1602 330 (1/4W)
R1601 150 (1/4W)
P1603
TALLY
GND
S/S
GND
INTERFACE C.B.A. (VEP00Q11A)
J1601 VJJ0163
EVF 5V
V.D.REC 5V
TITLE/VITC
VIDEO
GND
9V
CHARACTER GENERATOR C.B.A. (VEK4408)
SW1631 VMG0358
SUB S/S C.B.A. (VEK4485)
D1621 LN29CALU-LF
TALLY LED C.B.A. (VEK4409)
TO SYSTEM CTL
RF SHUT DOWN
TO SUB VIDEO
RF 5V
TO LUMICHRO. AUDIO SYSTEM CTL
REG 9V
GND
REG 5V
P1003
S/S
UNREG GND
TALLY2 5V
GND
EVF OUT
VD
TITLE/VITC
HD
VD REC
EVF 5V
TITLE/VITC
VD REC
HD
VD
EVF OUT
TO SERVO
REG 5V
UNREG
UNREG GND
TRIANGLE WAVE
P1002 TO PROCESS
C FP307·1
UNREG GND FP307·2
UNREG FP307·3
CAMERA 9V FP307·4
16V FP307·5
-8V FP307·6
GND FP307·7
INT VIDEO FP307·8
CAMERA 5V FP307·9
ZONE FP307·10
REC DATA FP307·11
REC DATA BLK FP307·12
TITLE FP307·13
C IN
Y IN
ZONE
TITLE
REC DATA BLK
Q1002 2SB956 9V AVR
TP1002
QR1006 UN5213
L1007 100u VLQ0319101K
Q1009 2SB1218
R1054 10K
R1065 10K
R1061 18K
C1038 6.3V100
QR1002 UN5213
QR1003 UN511D
R1055 12K
L1006 33u
ELC060015 33u L1005
ELC100007 180u L1002
2SB798 Q1007
D1003 SFPB-54
C1015 5.5V470u
C1016 5.5V220u
C1042 16V47
2SB1073
D1004
ELC040002 6.3V100u
C1021
TP1001
R1025 8200
VR1001 2K8
R1026 2200
R1024 330K
R1027 100K
R1028
C1020 820 5.5V220
TP1006 (GND)
C1019 16V47
IC1005 LM2904M
D1007 MA141WA
MA141K D1013
QR1005 IMD2
R1051 22K
D1002 MA121
C1040 10V120
R1044 100K
R1048 100K
C1037 50V0.47u
R1050 1M
R1045 100K
C1036 0.1u
R1049 47K
R1015 820 (1/8)
D1004 SFPB-59
L1008 220u VLQ0319K221
R1056 22K
R1057 10K
TP1004
T1001 ELL10R021
C1030 25V4.7
C1031 ELC040006 120u L1009
R1058 10K
R1059 12K
TP1003
C1041 16V8.2
D1005 SFPB-54
C1032 10V100
C1033 10V330
R1040 1M
R1042 4700
L1010 220u VLQ0319K221
TP1005
D1006 MA141A
R1039 56 (1/8)
C1034 10V33
D1009 RD7.5MB3
C1035 10V33
VR1003 500B
CAM 9V
R1041 180K
R1043 560
Q1005 2SD21775
5
6
7
8
9
10
11
12
13
14

Next Page:
SERVO Section

3-23. SERVO SCHEMATIC DIAGRAM


CAPSTAN SERVO SPEED LOOP
CAPSTAN SERVO PHASE LOOP
CYLINDER SERVO SPEED LOOP
CYLINDER SERVO PHASE LOOP
E
D
C
B
A
1
2
3
4
5
6
7
8
(TO LUMI.& CHRO.)
V-D REC Ⓗ
GCNGE 1
Vss Out
SP Ⓛ
S.C.R Ⓗ
RE ON Ⓗ
HA SW
H SW
Lock Pulse
V SW 4
V SW 3
V SW 2
V SW 1
GAIN C2
A.D REC Ⓗ
STPY
(To AUDIO)
FM-A-DREC Ⓛ
A SW 1
A SW 4
A SW 3
A SW 2
A HASW
A HSW
(TO SYSTEM CTL)
DELAY
AT ON Ⓛ
VD REC Ⓗ
SERVO SYNC
PB CTL
A MUTE
SERVO SCK
SBIO
S-TAPE
T-REEL
S-REEL
SENS LED
CAS DOWN Ⓛ
S-TAB Ⓛ
QR2005～2009
(POWER FAILURE NOISE REDUCTION)
QR2005 IMD2
QR2006 XN4113
QR2007 XN1213
QR2008 XN4113
QR2009 XN1213
R2054 100
IC2001
MN67512VXF
CYL. ON Ⓗ
STILL/CUE/REV Ⓗ
GAIN C1
SHORT PLAY Ⓗ
EP Ⓗ/SP Ⓛ
LP H /SP Ⓛ
AUDIO D-REC Ⓗ
ROTARY ERASE Ⓗ
V. D-REC Ⓗ
A. SW 1
A. SW 4
A. SW 3
A. SW 2
SBT
SB1
SB0
RST
Vss
HSW
PB CTL
FE Ⓗ
A.MUTE Ⓗ
VM UP Ⓗ
ATRACST
VDD
V. ENV.
CLK TEST Ⓛ
AUTO TRACK OFF Ⓗ
V sync
A-VDD
Co
AGC
GND
CTLA
CTLH
CTLS
REC CTL OUT
PB CTL IN
TPZ
CTL RVS
CTL FWD
1/2 REF. V.
RE O
A-Vss
Y-PG
Y-FG
A-FG
FGF
FGF
PGMM
ART V. SYNC
GAIN CTL PWM
CAP. PHASE/SPEED
CYL. PHASE
CYL. SPEED
A. H.AMP SW
A. H.SW
V. SW 4
OSC
OSC
H. AMP SW
H.AMP SW
V. SW 3
V. SW 2
V. SW 1
HRDL
ACC
REV/STOP/FWD
TL
(+5V)
R2001 1K
R2002 100K
R2053 100K
C2047 0.01
R2056 100K
TP2007
C2002 1u
C2001 4700P
R2057 100K
C2004
C2005 50V1
C2003 0.1
C2006 16V10
C2007 10V10
R2003 2200
C2008 0.022
D2003 MA141K
R2039 2200
R2037 680
R2038 330
TP2002
R2005 180
C2010 560P
R2004 2200
TP2003
C2012 50V1
C2049 0.1
C2013 50V1
R2007 10K
C2014 4V47
C2015 4V47
C2017
R2008 10K
C2018 1u
R2010 1M
D2001 MA143
R2009 1K
C2023 1u
C2022 4700P
C2019
C2020
C2021 0.01
VR2001 100KB
R2011 10K
C2024 0.027
PG SHIFTER
R2050 47K
R2051 47K
(RESET)
RESET
IC2004
MN12821-Q
C2043 0.1
C2042 6V33
R2035 470
R2059 100
TP2001
R2036 100K
R2052 100
R2060 100
R2013 10K
CYL. AMP
CAP. AMP
R2032 33K
R2031 33K
C2040 6V47
IC2003
XRA10358F
R2027 47K
C2036 0.1
R2026 10K
C2035 0.01
C2029 0.047
R2021 100K
R2023 180K
R2020 150K
C2030 4700P
C2028 22P
X2001 V5X0341
C2027 22P
PG AMP
FG AMP
R2017 5.6K
R2018 2700
R2019 10K
C2026 1u
C2050 100P
R2014 10K
R2015 2700
R2016 10K
C2025 1u
IC2002
XRA10358F
C2044 1000P
C2011 0.01
R2049 2700
R2024 6800
C2031 0.1
R2025 6800
C2032 0.47
IC2005
LM2903M
(CAP. POWER)
Q2001 2SB956X
D2004 MA736
L2001 300u
ELC08D024
(CYL. POWER)
Q2002 2SB956X
R2042 390
R2044 390
R2058
⚠ V5F0014A15
R2043 680 (1/8)
C2045 16V100
ELC08D025 600u
L2002
D2005 MA736
C2046 16V100
L2003 VLQ0463
C2051 0.018
R2006 220
C2009 1u
C2016 6V47
R2048 39K
(TO Audio)
A-DRec Ⓗ
FE ON Ⓗ
CTL ⊕
CTL ⊖
LP Ⓗ
A HSW
(To POWER)
UNREG
SW UNREG
REG 5V
TRIANGLE WAVE
UNREG GND
P2001(TO DRIVE)
1 V PG(5V) P2601-1
2 UNREG GND P2601-2
3 CAP FG GND P2601-3
4 CYL VM P2601-4
5 S-TAB P2601-5
6 TRIANGLE WAVE P2601-6
7 CAP VM P2601-7
8 CAP FG1 P2601-8
9 S-REEL P2601-9
10 CYL PG P2601-10
11 REG 5V P2601-11
12 R/S/F P2601-12
13 SNS LED P2601-13
14 CYL ETR P2601-14
15 S-TAPE Ⓗ P2601-15
16 CYL FG GND P2601-16
17 CAP SW P2601-17
18 CYL FG P2601-18
19 CAP EC P2601-19
20 CAS DOWN Ⓛ P2601-20
21 CYL ON Ⓗ P2601-21
22 T-REEL P2601-22
23 CYL ET P2601-23
24 CYL VS P2601-24
25 P CS P2601-25
26 T L P2601-26

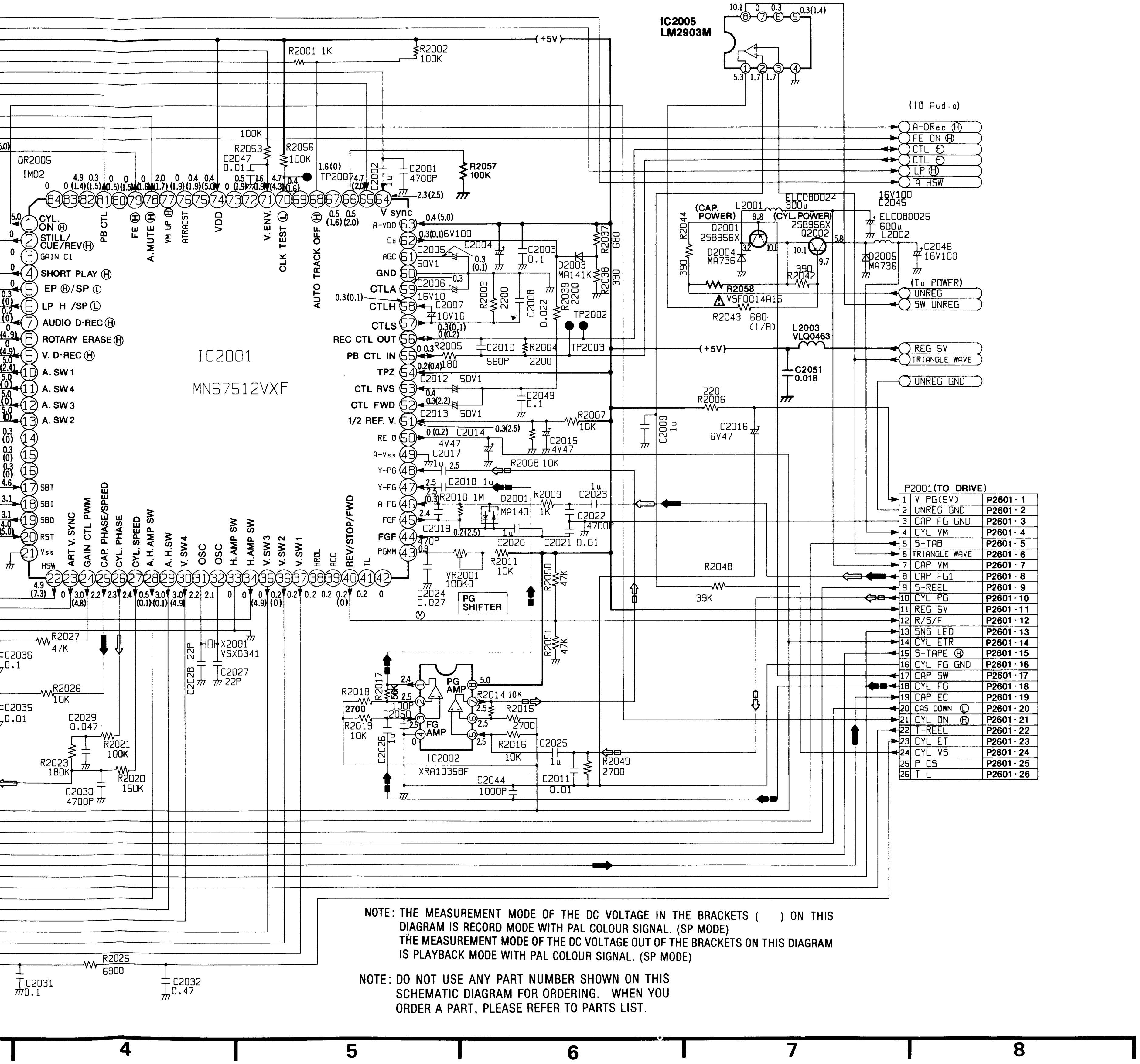
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL. (SP MODE)
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL. (SP MODE)

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

◀■ CYLINDER SERVO SPEED LOOP

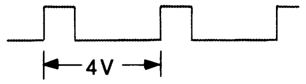
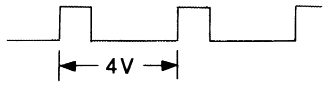
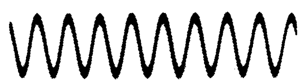
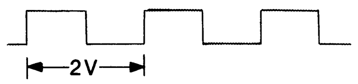
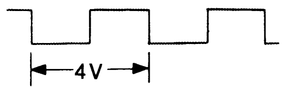
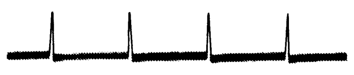
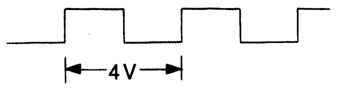
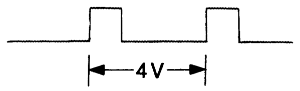
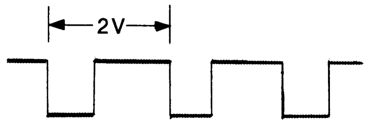
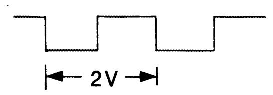
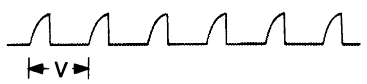
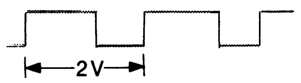
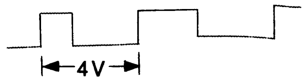
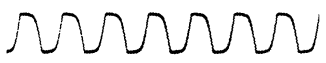
◁□ CYLINDER SERVO PHASE LOOP


IC2001
MN67512VXF
IC2005
LM2903M
IC2002
XRA10358F
PG AMP
FG AMP
PG SHIFTER
QR2005
IMD2
(+5V)
(TO Audio)
A-DRec Ⓗ
FE ON Ⓗ
CTL ⊕
CTL ⊖
LP Ⓗ
A HSW
(To POWER)
UNREG
SW UNREG
REG 5V
TRIANGLE WAVE
UNREG GND
(CAP. POWER)
(CYL.POWER)
Q2001 2SB956X
Q2002 2SB956X
D2004 MA736
D2005 MA736
D2003 MA141K
D2001 MA143
L2001 ELC08D024 300u
L2002 ELC08D025 600u
L2003 VLQ0463
R2058 VSF0014A15
X2001 VSX0341
VR2001 100KB
TP2001
TP2002
TP2003
CYL. ON Ⓗ
STILL/CUE/REV Ⓗ
GAIN C1
SHORT PLAY Ⓗ
EP Ⓗ/SP Ⓛ
LP H /SP Ⓛ
AUDIO D-REC Ⓗ
ROTARY ERASE Ⓗ
V. D-REC Ⓗ
A. SW1
A. SW4
A. SW3
A. SW2
SBT
SBI
SBO
RST
Vss
HSW
ART V. SYNC
GAIN CTL PWM
CAP. PHASE/SPEED
CYL. PHASE
CYL. SPEED
A.H.AMP SW
A.H.SW
V.SW4
OSC
OSC
H.AMP SW
H.AMP SW
V.SW3
V.SW2
V.SW1
HROL
ACC
REV/STOP/FWD
TL
PB CTL
FE Ⓗ
A.MUTE Ⓗ
VH UP Ⓗ
ATRACST
VDD
V.ENV.
CLK TEST Ⓛ
AUTO TRACK OFF Ⓗ
V sync
A-VDD
Co
AGC
GND
CTLA
CTLH
CTLS
REC CTL OUT
PB CTL IN
TPZ
CTL RVS
CTL FWD
1/2 REF. V.
RE 0
A-Vss
Y-PG
Y-FG
A-FG
FGF
FGF
PGMM
P2001(TO DRIVE)
1 V PG(5V) P2601·1
2 UNREG GND P2601·2
3 CAP FG GND P2601·3
4 CYL VM P2601·4
5 S-TAB P2601·5
6 TRIANGLE WAVE P2601·6
7 CAP VM P2601·7
8 CAP FG1 P2601·8
9 S-REEL P2601·9
10 CYL PG P2601·10
11 REG 5V P2601·11
12 R/S/F P2601·12
13 SNS LED P2601·13
14 CYL ETR P2601·14
15 S-TAPE Ⓗ P2601·15
16 CYL FG GND P2601·16
17 CAP SW P2601·17
18 CYL FG P2601·18
19 CAP EC P2601·19
20 CAS DOWN Ⓛ P2601·20
21 CYL ON Ⓗ P2601·21
22 T-REEL P2601·22
23 CYL ET P2601·23
24 CYL VS P2601·24
25 P CS P2601·25
26 T L P2601·26
4
5
6
7
8

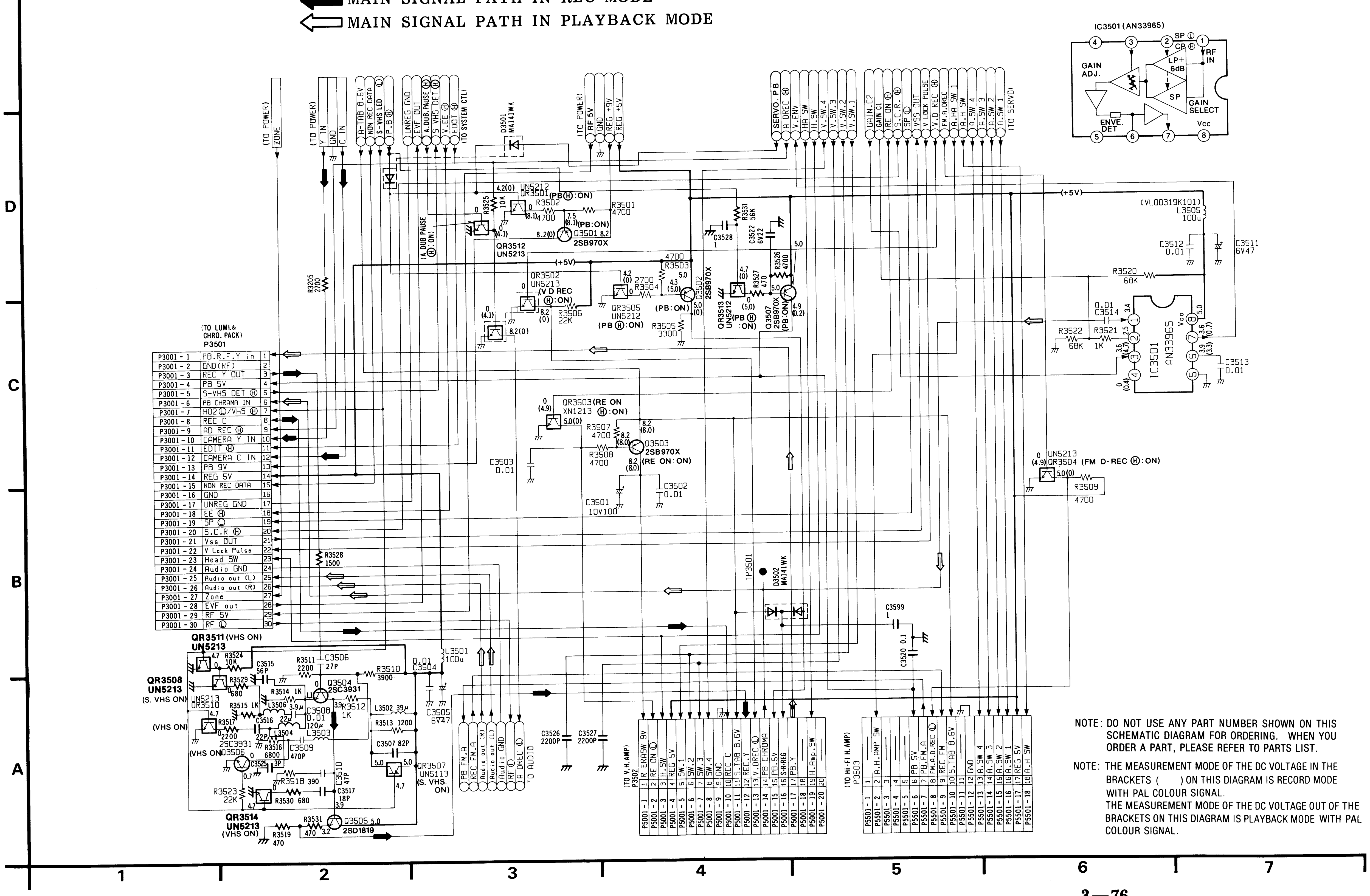
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL. (SP MODE)
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL. (SP MODE)

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

SERVO CIRCUIT WAVEFORM

IC2001-⑩, ⑪, ⑫, ⑬  5Vp-p (REC/PLAY)	IC2001-㉟, ㊱  5Vp-p (REC/PLAY)	IC2001-㊼  200mVp-p (REC/PLAY)
IC2001-㉒, TP2001  5Vp-p (REC/PLAY)	IC2001-㉞  5Vp-p (REC/PLAY)	IC2001-㊽  150mVp-p (REC)
IC2001-㉘  5Vp-p (REC/PLAY)	IC2001-㊱, ㊲  5Vp-p (REC/PLAY)	IC2001-㊻, TP2002  5.3Vp-p (REC)
IC2001-㉙  5Vp-p (REC/PLAY)	IC2001-㊸  4.6Vp-p (REC/PLAY)	IC2001-(81)  5Vp-p (PLAY)
IC2001-㉚  5Vp-p (REC/PLAY)	IC2001-㊹, ㊺  1.2Vp-p (REC/PLAY)	

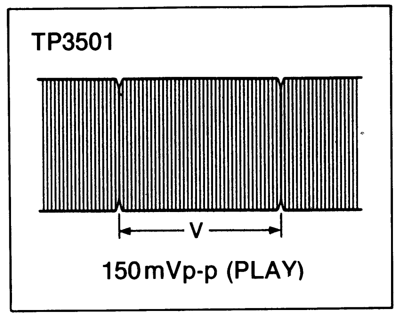
3-24. SUB VIDEO SCHEMATIC DIAGRAM


E
D
C
B
A
1
2
3
4
5
6
7
MAIN SIGNAL PATH IN REC MODE
MAIN SIGNAL PATH IN PLAYBACK MODE
(TO POWER)
ZONE
(TO POWER)
Y IN
GND
C IN
A-TAB 8.6V
NON REC DATA
S-VHS LED Ⓛ
P.B Ⓗ
UNREG GND
EVF OUT
A.DUB.PAUSE Ⓗ
S VHS DET Ⓗ
V.EE Ⓗ
EDIT Ⓗ
(TO SYSTEM CTL)
D3501 MA141WK
(TO POWER)
RF 5V
GND
REG +9V
REG +5V
SERVO. P.B
A DREC Ⓗ
V.ENV
HA SW
H.SW
V.SW.4
V.SW.3
V.SW.2
V.SW.1
GAIN.C2
GAIN C1
RE ON Ⓗ
S.C.R. Ⓗ
SP Ⓛ
VSS OUT
V LOCK PULSE
V.D REC Ⓗ
FM.A.DREC
A.HA SW 1
A.H.SW
A.SW 4
A.SW 3
A.SW 2
A.SW 1
(TO SERVO)
QR3501 UN5212 (PB Ⓗ:ON)
R3502 4700
R3501 4700
Q3501 2SB970X (PB:ON)
R3525 10K
QR3512 UN5213
(A DUB PAUSE Ⓗ:ON)
R3205 2700
QR3502 UN5213 (V D REC Ⓗ:ON)
R3506 22K
QR3505 UN5212 (PB Ⓗ:ON)
R3504 2700
R3503 4700
R3505 3300
Q3502 2SB970X (PB:ON)
C3528 1
R3531 56K
C3522 6V22
QR3513 UN5212 (PB Ⓗ:ON)
R3527 470
R3526 4700
Q3507 2SB970X (PB:ON)
(+5V)
(VLQ0319K101) L3505 100μ
C3512 0.01
C3511 6V47
R3520 68K
C3514 0.01
R3522 68K
R3521 1K
IC3501 AN33965
C3513 0.01
(TO LUML& CHRO. PACK) P3501
P3001-1 PB.R.F.Y in
P3001-2 GND(RF)
P3001-3 REC Y OUT
P3001-4 PB 5V
P3001-5 S-VHS DET Ⓗ
P3001-6 PB CHRAMA IN
P3001-7 HO2Ⓛ/VHS Ⓗ
P3001-8 REC C
P3001-9 AD REC Ⓗ
P3001-10 CAMERA Y IN
P3001-11 EDIT Ⓗ
P3001-12 CAMERA C IN
P3001-13 PB 9V
P3001-14 REG 5V
P3001-15 NON REC DATA
P3001-16 GND
P3001-17 UNREG GND
P3001-18 EE Ⓗ
P3001-19 SP Ⓛ
P3001-20 S.C.R Ⓗ
P3001-21 Vss OUT
P3001-22 V Lock Pulse
P3001-23 Head SW
P3001-24 Audio GND
P3001-25 Audio out (L)
P3001-26 Audio out (R)
P3001-27 Zone
P3001-28 EVF out
P3001-29 RF 5V
P3001-30 RF Ⓛ
QR3503 (RE ON Ⓗ:ON) XN1213
R3507 4700
R3508 4700
Q3503 2SB970X (RE ON:ON)
C3503 0.01
C3501 10V100
C3502 0.01
UN5213 QR3504 (FM D·REC Ⓗ:ON)
R3509 4700
R3528 1500
TP3501
D3502 MA141WK
C3599 1
C3520 0.1
QR3511 (VHS ON) UN5213
R3524 10K
C3515 56P
R3511 2200
C3506 27P
R3510 3900
C3504 0.01
L3501 100μ
QR3508 UN5213 (S. VHS ON)
UN5213 QR3510
R3529
R3514 1K
Q3504 2SC3931
R3515 1K
L3506 3.9μ
C3508 0.01
R3512 1K
L3502 39μ
R3513 1200
C3505 6V47
(VHS ON)
R3517 2200
C3516 22P
L3504 120μ
L3503
2SC3931
Q3506
R3516 6800
C3509 470P
C3510 47P
C3507 82P
QR3507 UN5113 (S. VHS. ON)
R3518 390
C3517 18P
R3523 22K
R3530 680
QR3514 UN5213 (VHS ON)
R3519 470
R3531 470
Q3505 2SD1819
PB FM.A
REC FM.A
Audio out (R)
Audio out (L)
Audio GND
RF Ⓛ
A DREC Ⓛ
TO AUDIO
C3526 2200P
C3527 2200P
(TO V.H.AMP) P3502
P5001-1 R.ERASW 9V
P5001-2 RE ON Ⓛ
P5001-3 H.SW
P5001-4 REG 5V
P5001-5 SW.1
P5001-6 SW.2
P5001-7 SW.3
P5001-8 SW.4
P5001-9 GND
P5001-10 REC C
P5001-11 S.TAB 8.6V
P5001-12 REC.Y
P5001-13 V.DREC Ⓛ
P5001-14 PB CHROMA
P5001-15 PB.5V
P5001-16 S-REG
P5001-17 PB.Y
P5001-18
P5001-19 H.Amp.SW
P5001-20
(TO HI-FI H.AMP) P3503
P5501-1
P5501-2 A.H.AMP SW
P5501-3
P5501-4
P5501-5
P5501-6 PB 5V
P5501-7 PB.FM.A
P5501-8 FM.A.D.REC Ⓛ
P5501-9 REC FM
P5501-10 S.TAB 8.6V
P5501-11
P5501-12 GND
P5501-13 A.SW 4
P5501-14 A.SW 3
P5501-15 A.SW 2
P5501-16 A.SW 1
P5501-17 REG 5V
P5501-18 A.H SW
IC3501 (AN33965)
GAIN ADJ.
LP+ 6dB
SP
SP Ⓛ
CP Ⓗ
RF IN
GAIN SELECT
ENVE. DET
Vcc

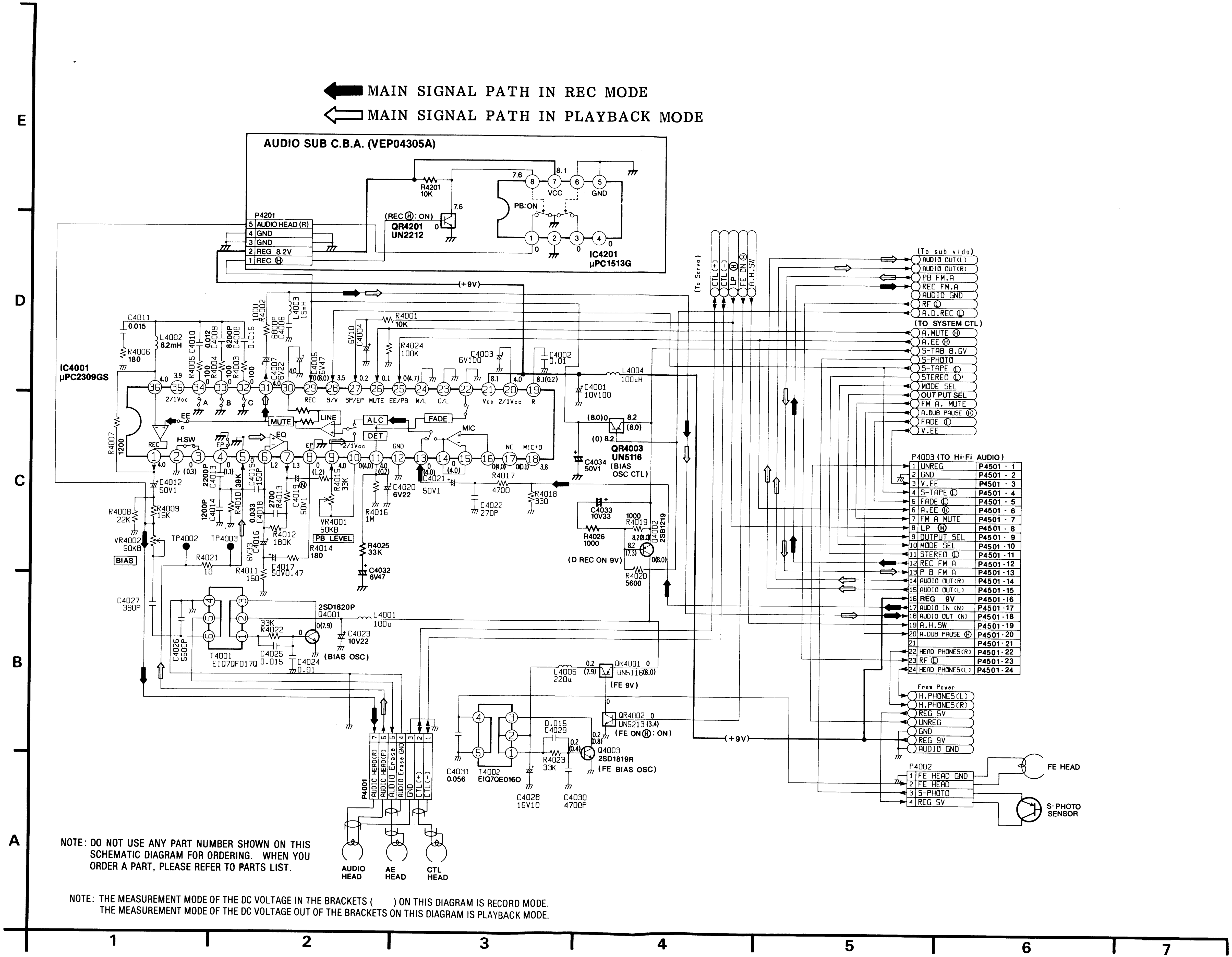
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.

SUB VIDEO CIRCUIT WAVEFORM



3-25. AUDIO SCHEMATIC DIAGRAM



MAIN SIGNAL PATH IN REC MODE
MAIN SIGNAL PATH IN PLAYBACK MODE
AUDIO SUB C.B.A. (VEP04305A)
P4201
5 AUDIO HEAD (R)
4 GND
3 GND
2 REG 8.2V
1 REC Ⓗ
R4201 10K
(REC Ⓗ : ON)
QR4201 UN2212
PB:ON
VCC
GND
IC4201 µPC1513G
(+9V)
IC4001 µPC2309GS
C4011 0.015
L4002 8.2mH
R4006 180
R4002 1000
C4006 6800P
L4003 15mH
R4001 10K
R4024 100K
C4003 6V100
C4002 0.01
L4004 100uH
C4001 10V100
MUTE
LINE
ALC
FADE
DET
MIC
EQ
REC
H.SW
EE
R4007 1200
C4012 50V1
R4008 22K
R4009 15K
VR4002 50KB
BIAS
TP4002
TP4003
R4021 10
R4011 150
C4017 50V0.47
R4012 180K
R4014 180
VR4001 50KB
PB LEVEL
R4015 33K
R4016 1M
C4020 6V22
R4025 33K
C4032 6V47
C4021 50V1
C4022 270P
R4017 4700
R4018 330
QR4003 UN5116 (BIAS OSC CTL)
C4034 50V1
C4033 10V33
R4026 1000
R4019 1000
Q4002 2SB1219
R4020 5600
(D REC ON 9V)
C4027 390P
C4026 5600P
T4001 EIQ7QF0170
2SD1820P Q4001
R4022 33K
L4001 100u
C4023 10V22
C4025 0.015
C4024 0.01
(BIAS OSC)
QR4001 UN5116
L4005 220u
(FE 9V)
QR4002 UN5213
(FE ON Ⓗ : ON)
C4029 0.015
Q4003 2SD1819R
(FE BIAS OSC)
R4023 33K
C4031 0.056
T4002 EIQ7QE0160
C4028 16V10
C4030 4700P
P4001
7 AUDIO HEAD(R)
6 AUDIO HEAD(P)
5 AUDIO Erase
4 AUDIO Erase GND
3 GND
2 CTL(+)
1 CTL(-)
AUDIO HEAD
AE HEAD
CTL HEAD
(To Servo)
CTL(+)
CTL(-)
LP Ⓗ
FE ON Ⓗ
A.H.SW
(To sub vido)
AUDIO OUT(L)
AUDIO OUT(R)
PB FM.A
REC FM.A
AUDIO GND
RF Ⓛ
A.D.REC Ⓛ
(TO SYSTEM CTL)
A.MUTE Ⓗ
A.EE Ⓗ
S-TAB 8.6V
S-PHOTO
S-TAPE Ⓛ
STEREO Ⓛ'
MODE SEL
OUT PUT SEL
FM A. MUTE
A.DUB PAUSE Ⓗ
FADE Ⓛ
V.EE
P4003 (TO Hi-Fi AUDIO)
1 UNREG P4501 - 1
2 GND P4501 - 2
3 V.EE P4501 - 3
4 S-TAPE Ⓛ P4501 - 4
5 FADE Ⓛ P4501 - 5
6 A.EE Ⓗ P4501 - 6
7 FM A MUTE P4501 - 7
8 LP Ⓗ P4501 - 8
9 OUTPUT SEL P4501 - 9
10 MODE SEL P4501 - 10
11 STEREO Ⓛ P4501 - 11
12 REC FM A P4501 - 12
13 P B FM A P4501 - 13
14 AUDIO OUT(R) P4501 - 14
15 AUDIO OUT(L) P4501 - 15
16 REG 9V P4501 - 16
17 AUDIO IN (N) P4501 - 17
18 AUDIO OUT (N) P4501 - 18
19 A.H.SW P4501 - 19
20 A.DUB PAUSE Ⓗ P4501 - 20
21 P4501 - 21
22 HEAD PHONES(R) P4501 - 22
23 RF Ⓛ P4501 - 23
24 HEAD PHONES(L) P4501 - 24
From Power
H.PHONES(L)
H.PHONES(R)
REG 5V
UNREG
GND
REG 9V
AUDIO GND
P4002
1 FE HEAD GND
2 FE HEAD
3 S-PHOTO
4 REG 5V
FE HEAD
S-PHOTO SENSOR
E
D
C
B
A
1
2
3
4
5
6
7

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE. THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE.

Back Page:
SUB VIDEO Section

SYSTEM CONTROL Section on MAIN C.B.A.	
Transistor	
Q6002	C-18 Ⓕ
Q6003	F-6 Ⓒ
Q6004	F-20 Ⓕ
Q6005	G-5 Ⓒ
Q6006	E-19 Ⓕ
Q6007	F-18 Ⓕ
Q6008	F-18 Ⓕ
Transistor & Resistor	
QR6001	G-19 Ⓕ
QR6002	C-17 Ⓕ
QR6003	B-14 Ⓕ
QR6004	C-18 Ⓕ
QR6005	D-15 Ⓕ
QR6006	F-9 Ⓒ
QR6007	E-7 Ⓒ
QR6008	E-9 Ⓒ
QR6009	F-20 Ⓕ
QR6010	E-17 Ⓕ
QR6011	F-17 Ⓕ
QR6012	B-9 Ⓒ
QR6013	D-16 Ⓕ
Integrated Circuit	
IC6001	F-8 Ⓒ
IC6002	E-8 Ⓒ
IC6003	G-19 Ⓕ
IC6004	F-6 Ⓒ
IC6005	E-20 Ⓕ
IC6006	F-7 Ⓒ
IC6007	F-17 Ⓕ
Test Point	
TP6001	G-17 Ⓕ
TP6002	G-18 Ⓕ
Adjustment	
C6004	F-18 Ⓕ
VR6001	F-18 Ⓕ
Connector	
P6001	G-9 Ⓒ
P6001	G-18 Ⓕ
P6002	E-5 Ⓒ
P6002	D-21 Ⓕ
P6003	F-5 Ⓒ
P6003	G-21 Ⓕ
P6004	G-7 Ⓒ
P6004	G-19 Ⓕ
P6005	A-9 Ⓒ
P6005	A-17 Ⓕ
P6006	D-8 Ⓒ
P6006	D-18 Ⓕ

ADDRESS INFORMATION
Ⓒ...COMPONENT SIDE
Ⓕ...FOIL SIDE

POWER SUPPLY Section on MAIN C.B.A.	
Transistor	
Q1001	E-14 Ⓕ
Q1002	E-15 Ⓕ
Q1003	E-15 Ⓕ
Q1004	F-16 Ⓕ
Q1005	F-12 Ⓒ
Q1006	F-12 Ⓒ
Q1007	F-14 Ⓕ
Q1008	G-10 Ⓒ
Q1009	B-8 Ⓒ
Transistor & Resistor	
QR1001	E-17 Ⓕ
QR1002	E-16 Ⓕ
QR1003	E-16 Ⓕ
QR1005	F-17 Ⓕ
QR1006	D-18 Ⓕ
Integrated Circuit	
IC1001	E-11 Ⓒ
IC1005	E-16 Ⓕ
Test Point	
TP1001	G-18 Ⓕ
TP1002	D-14 Ⓕ
TP1003	G-19 Ⓕ
TP1004	G-19 Ⓕ
TP1005	G-19 Ⓕ
TP1006	F-21 Ⓕ
Adjustment	
VR1001	E-15 Ⓕ
VR1002	E-14 Ⓕ
VR1003	F-16 Ⓕ
Connector	
P1001	A-12 Ⓒ
P1001	B-14 Ⓕ
P1002	E-5 Ⓒ
P1002	F-21 Ⓕ
P1003	G-7 Ⓒ
P1003	G-18 Ⓕ
P1601	G-1 Ⓒ
P1601	G-4 Ⓕ
P1602	G-2 Ⓒ
P1602	G-3 Ⓕ
P1603	F-2 Ⓒ
P1603	F-3 Ⓕ

ADDRESS INFORMATION
Ⓒ...COMPONENT SIDE
Ⓕ...FOIL SIDE

SERVO Section on MAIN C.B.A.	
Transistor	
Q2001	C-14 Ⓕ
Q2002	C-14 Ⓕ
Transistor & Resistor	
QR2005	D-9 Ⓒ
QR2006	C-8 Ⓒ
QR2007	C-18 Ⓕ
QR2008	C-17 Ⓕ
QR2009	C-17 Ⓕ
Integrated Circuit	
IC2001	C-10 Ⓒ
IC2002	C-16 Ⓕ
IC2003	A-11 Ⓒ
IC2004	C-9 Ⓒ
IC2005	B-12 Ⓒ
Test Point	
TP2001	G-20 Ⓕ
TP2002	A-13 Ⓕ
TP2003	A-14 Ⓕ
TP2007	B-14 Ⓕ
Adjustment	
VR2001	B-14 Ⓕ
Connector	
P2001	B-10 Ⓒ
P2001	B-17 Ⓕ

ADDRESS INFORMATION
Ⓒ...COMPONENT SIDE
Ⓕ...FOIL SIDE

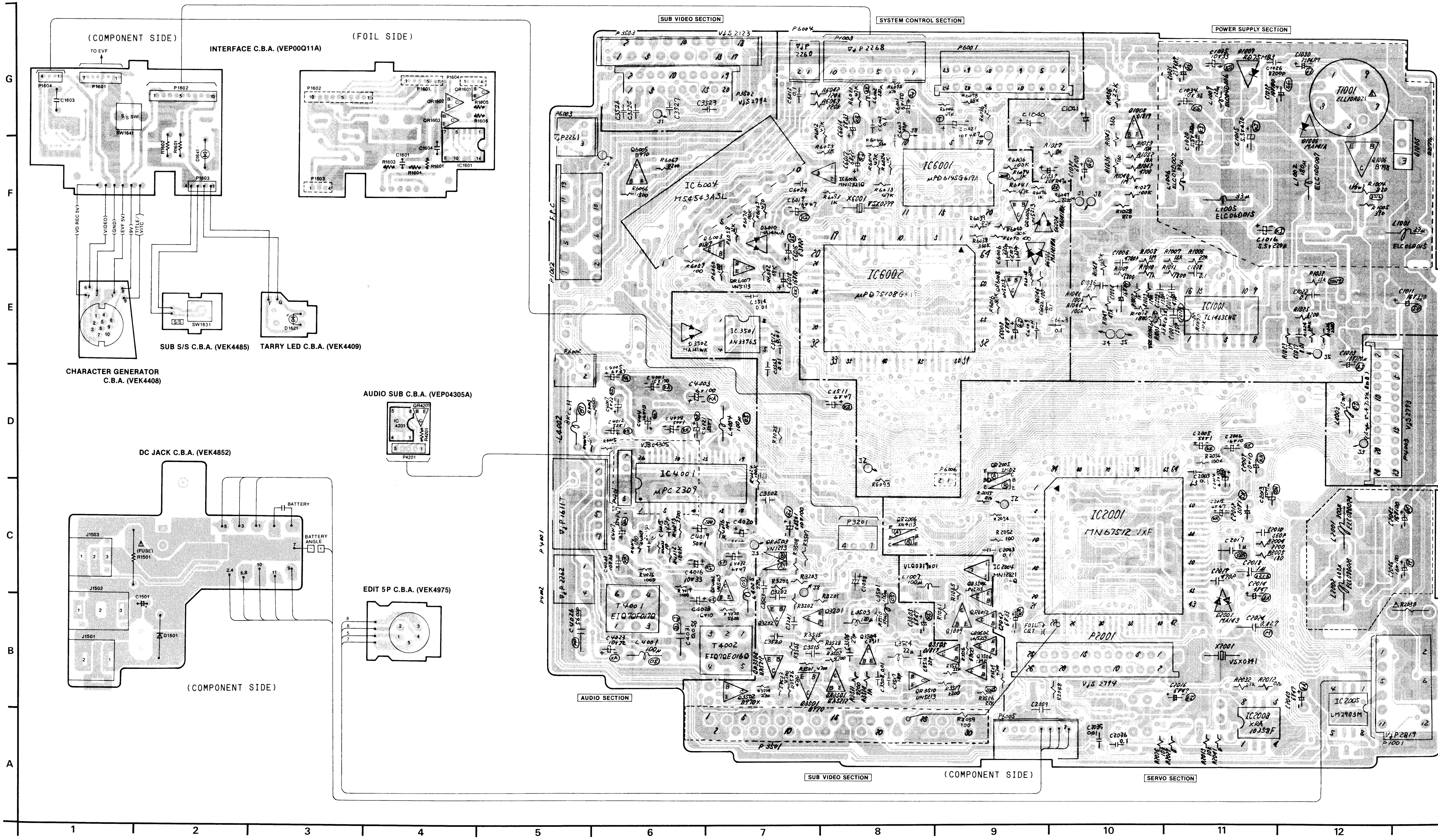
AUDIO Section on MAIN C.B.A.	
Transistor	
Q4001	B-21 Ⓕ
Q4002	C-20 Ⓕ
Q4003	B-20 Ⓕ
Transistor & Resistor	
QR4001	C-20 Ⓕ
QR4002	C-6 Ⓒ
QR4003	C-20 Ⓕ
QR4201	D-4 Ⓕ
Integrated Circuit	
IC4001	D-6 Ⓒ
IC4201	D-4 Ⓕ
Test Point	
TP4002	C-20 Ⓕ
TP4003	C-20 Ⓕ
Adjustment	
VR4001	C-20 Ⓕ
VR4002	C-20 Ⓕ
Connector	
P4001	C-5 Ⓒ
P4001	C-21 Ⓕ
P4002	C-5 Ⓒ
P4002	C-21 Ⓕ
P4003	D-12 Ⓒ
P4003	D-14 Ⓕ
P4201	D-4 Ⓕ
P4201	C-5 Ⓒ
P4201	C-21 Ⓕ

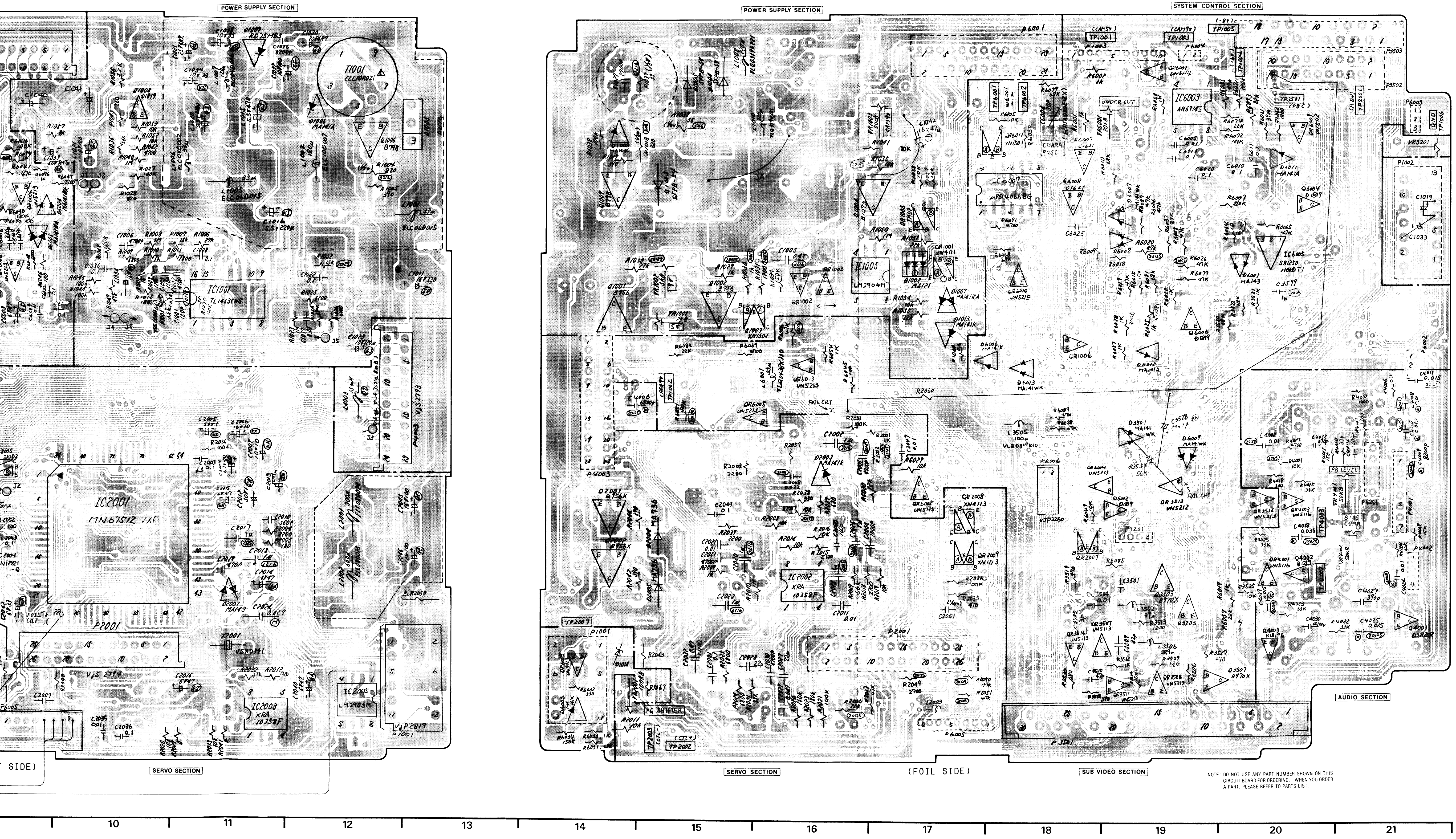
ADDRESS INFORMATION
Ⓒ...COMPONENT SIDE
Ⓕ...FOIL SIDE

SUB VIDEO Section on MAIN C.B.A.	
Transistor	
Q3201	B-7 Ⓒ
Q3202	B-7 Ⓒ
Q3203	B-19 Ⓕ
Q3501	B-7 Ⓒ
Q3502	B-7 Ⓒ
Q3503	B-19 Ⓕ
Q3504	B-8 Ⓒ
Q3505	B-8 Ⓒ
Q3506	B-9 Ⓒ
Q3507	B-19 Ⓕ
Transistor & Resistor	
QR3501	B-7 Ⓒ
QR3502	B-9 Ⓒ
QR3503	C-7 Ⓒ
QR3504	C-9 Ⓒ
QR3505	B-7 Ⓒ
QR3507	B-18 Ⓕ
QR3508	B-19 Ⓕ
QR3510	B-8 Ⓒ
QR3511	B-18 Ⓕ
QR3512	C-20 Ⓕ
QR3513	C-19 Ⓕ
QR3514	B-18 Ⓕ
Integrated Circuit	
IC3501	E-7 Ⓒ
Test Point	
TP3501	G-20 Ⓕ
Adjustment	
VR3201	F-21 Ⓕ
Connector	
P3201	C-8 Ⓒ
P3201	C-19 Ⓕ
P3501	A-7 Ⓒ
P3501	A-18 Ⓕ
P3502	G-21 Ⓕ
P3503	G-6 Ⓒ
P3503	G-21 Ⓕ

ADDRESS INFORMATION
Ⓒ...COMPONENT SIDE
Ⓕ...FOIL SIDE

3-26. MAIN [SYSTEM CONTROL, POWER SUPPLY, SERVO, SUB VIDEO, AUDIO Section] C.B.A. (VEP06675A)


(COMPONENT SIDE)
TO EVF
INTERFACE C.B.A. (VEP00Q11A)
(FOIL SIDE)
P1604
P1601
P1602
P1603
S/S SW
SW1641
QR1601
QR1602
QR1603
IC1601
(VD REC 5V)
(VIDEO)
(GND)
(EVF 5V)
(9V)
(TITLE/VITC)
CHARACTER GENERATOR C.B.A. (VEK4408)
SUB S/S C.B.A. (VEK4485)
SW1631
TARRY LED C.B.A. (VEK4409)
D1621
AUDIO SUB C.B.A. (VEP04305A)
IC4201
QR4201
P4201
DC JACK C.B.A. (VEK4852)
J1503
J1502
J1501
(FUSE) R1501
C1501
D1501
BATTERY
BATTERY ANGLE
(COMPONENT SIDE)
EDIT 5P C.B.A. (VEK4975)
SUB VIDEO SECTION
SYSTEM CONTROL SECTION
POWER SUPPLY SECTION
AUDIO SECTION
SERVO SECTION
(COMPONENT SIDE)
IC6004 M54543ASL
IC6001 µPD6145G617A
IC6002 µPD75108GK
IC3501 AN3376S
IC4001 µPC2309
IC2001 MN67512 JXF
IC1001 TL1463CNS
IC2004 MN12821
IC2003 XRA10358F
IC2005 LM2903M
T1001 ELL10R021
T4001 EIQ70F0170
T4002 EIQ70E0160
X6001
X2001 VSX0391
P2001
P3501
P3201
P6005
P6006
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
12


POWER SUPPLY SECTION
POWER SUPPLY SECTION
SYSTEM CONTROL SECTION
SERVO SECTION
SERVO SECTION
(FOIL SIDE)
SUB VIDEO SECTION
AUDIO SECTION
T1001
IC1001
IC2001
MN67512JXF
IC2002
IC2005
IC2008
IC1005
IC6003
IC6005
IC6007
P2001
P3501
P6005
10
11
12
13
14
15
16
17
18
19
20
21

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS CIRCUIT BOARD FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

Next Page:
LUMINANCE & CHROMINANCE Section

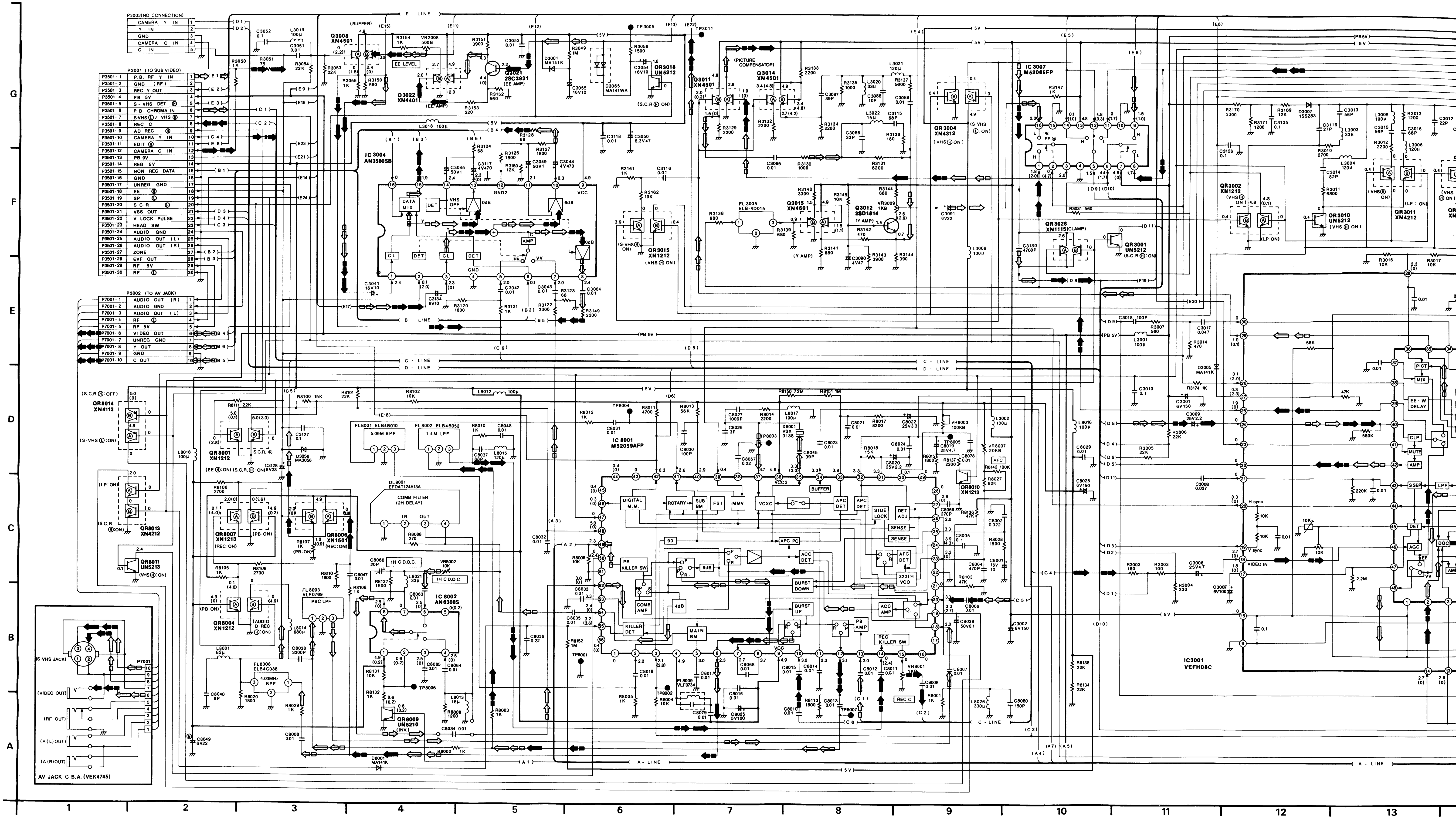
3-27. LUMINANCE & CHROMINANCE SCHEMATIC DIAGRAM

MAIN SIGNAL PATH IN REC MODE(VHS)

MAIN SIGNAL PATH IN REC MODE(S-VHS)

MAIN SIGNAL PATH IN PLAYBACK MODE(VHS)

MAIN SIGNAL PATH IN PLAYBACK MODE(S-VH



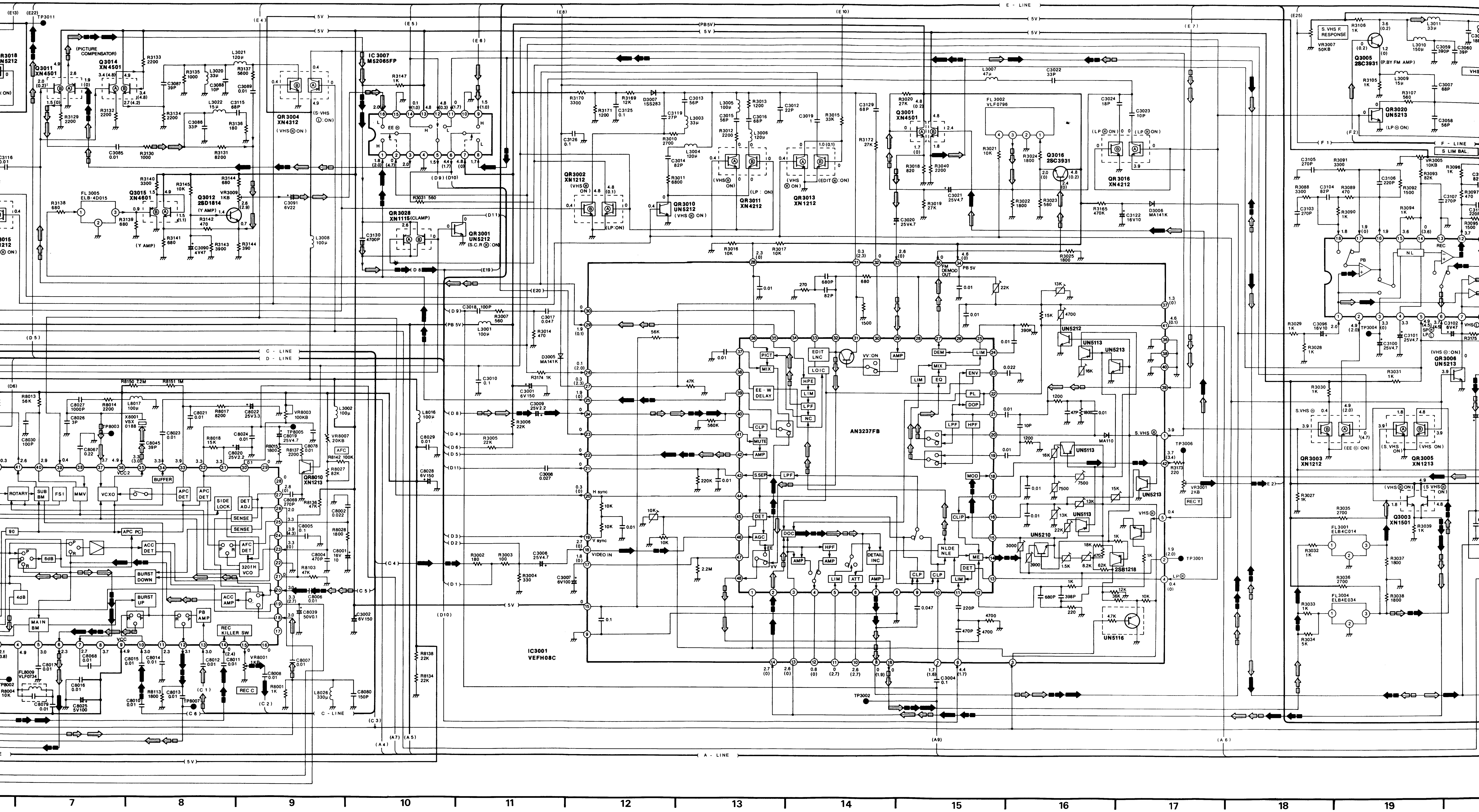
P3003(NO CONNECTION)
CAMERA Y IN
Y IN
GND
CAMERA C IN
C IN
P3001 (TO SUB VIDEO)
P.B. RF Y IN
GND (RF)
REC Y OUT
PB 5V
S-VHS DET
P.B. CHROMA IN
SVHS / VHS
REC C
AD REC
CAMERA Y IN
EDIT
CAMERA C IN
PB 9V
REG 5V
NON REC DATA
GND
UNREG GND
EE
SP
S.C.R.
VSS OUT
V LOCK PULSE
HEAD SW
AUDIO GND
AUDIO OUT (L)
AUDIO OUT (R)
ZONE
EVF OUT
RF 5V
RF
P3002 (TO AV JACK)
AUDIO OUT (R)
AUDIO GND
AUDIO OUT (L)
RF
RF 5V
VIDEO OUT
UNREG GND
Y OUT
GND
C OUT
E - LINE
B - LINE
C - LINE
D - LINE
A - LINE
Q3008 XN4501 (BUFFER)
EE LEVEL
Q3022 XN4401
Q3021 2SC3931 (EE AMP)
D3001 MA141K
D3065 MA141WA
QR3018 UN5212 (S.C.R Ⓗ:ON)
TP3005
TP3011
IC 3004 AN3580SB
DATA MIX
DET
VHS OFF
CL
GND
AMP
EE
VV
VCC
GND2
Q3011 XN4501
Q3014 XN4501
(PICTURE COMPENSATOR)
QR3015 XN1212 (VHS Ⓗ ON)
FL 3005 ELB-4D015
Q3015 XN4501
Q3012 2SD1814 (Y AMP)
VR3009 1KB
IC 3007 M52065FP
QR3004 XN4312 (VHS Ⓗ ON)
QR3028 XN1115 (CLAMP)
QR3001 UN5212 (S.C.R Ⓗ:ON)
QR3002 XN1212
QR3010 UN5212 (VHS Ⓗ ON)
QR3011 XN4212
QR8014 XN4113
QR8001 XN1212
QR8013 XN4212
QR8011 UN5213 (VHS Ⓗ:ON)
QR8007 XN1213 (REC:ON)
QR8006 XN1501 (REC:ON)
QR8004 XN1212
D3056 MA3056
FL8001 ELB4B010 5.06M BPF
FL 8002 ELB4B052 1.4M LPF
DL8001 EFDAT124A13A COMB FILTER (2H DELAY)
IN OUT
FL8003 VLF0789 PBC LPF
IC 8002 AN6308S
1H C.D.O.C.
QR8009 UN5210 (INV.)
D8001 MA141K
FL8008 ELB4C038 4.03MHz BPF
TP8006
IC 8001 M52059AFP
TP8004
TP8003
DIGITAL M.M.
ROTARY
SUB BM
FSI
MMV
VCXO
BUFFER
APC DET
APC PC
SIDE LOCK
DET ADJ
SENSE
PB KILLER SW
6dB
ACC DET
BURST DOWN
BURST UP
COMB AMP
4dB
KILLER DET
MAIN BM
ACC AMP
AFC DET
3201H VCO
PB AMP
REC KILLER SW
REC C
FL8009 VLF0734
TP8002
TP8001
TP8007
QR8010 XN1213
X8001 VSX 0188
VR8003 100KB
VR8007 20KB
AFC
IC3001 VEFH08C
H sync
V sync
VIDEO IN
PICT
MIX
EE - W DELAY
CLP
MUTE
AMP
S.SEP
LPF
DET
AGC
D3005 MA141K
D3007 1SS283
AV JACK C B.A.(VEK4745)
(S-VHS JACK)
(VIDEO OUT)
(RF OUT)
(A(L)OUT)
(A(R)OUT)
P7001
1 2 3 4 5 6 7 8 9 10 11 12 13
G F E D C B A

■ MAIN SIGNAL PATH IN REC MODE(VHS)

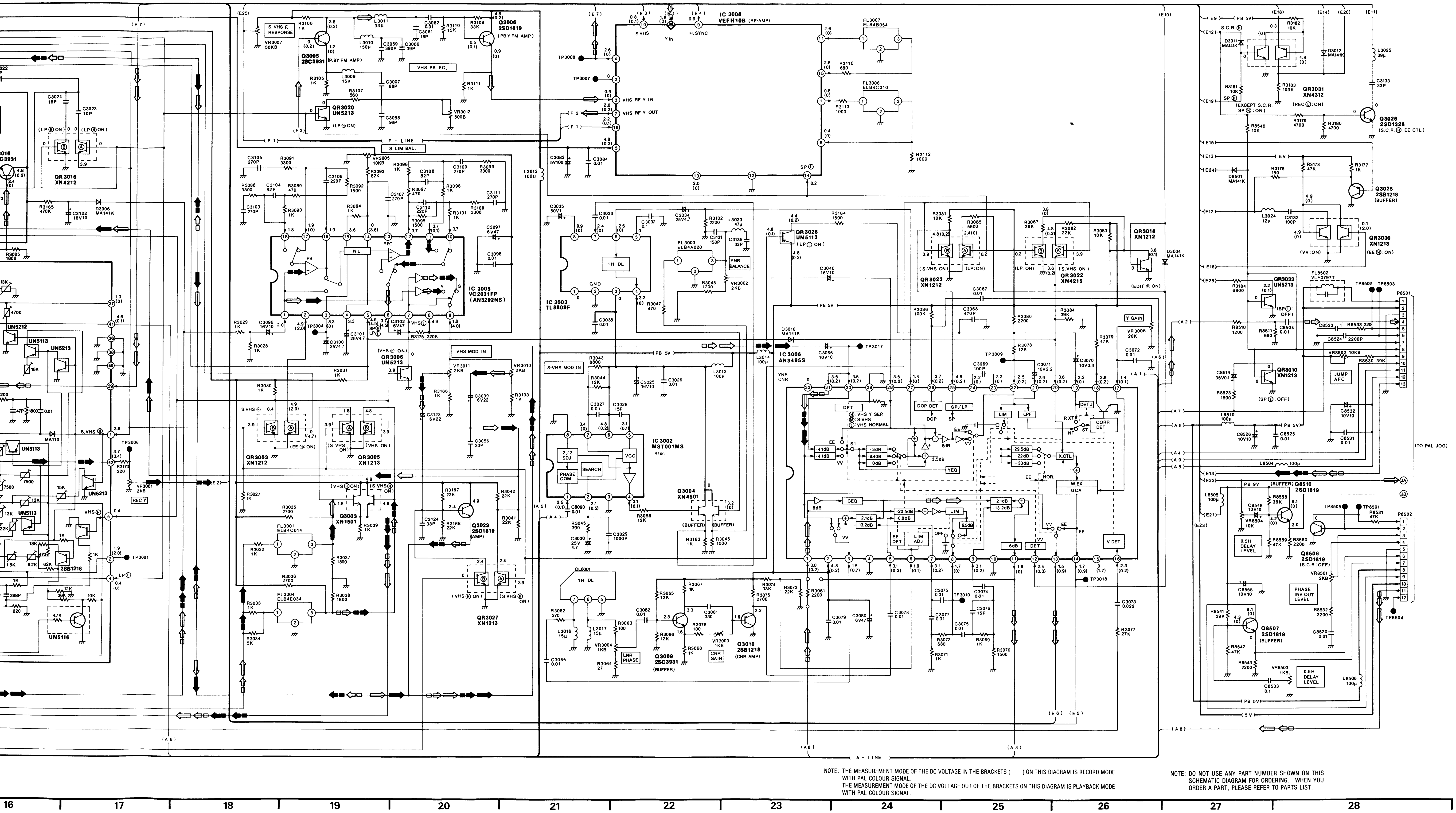
■■ MAIN SIGNAL PATH IN REC MODE(S-VHS)

⇦ MAIN SIGNAL PATH IN PLAYBACK MODE(VHS)

⇦□ MAIN SIGNAL PATH IN PLAYBACK MODE(S-VHS)



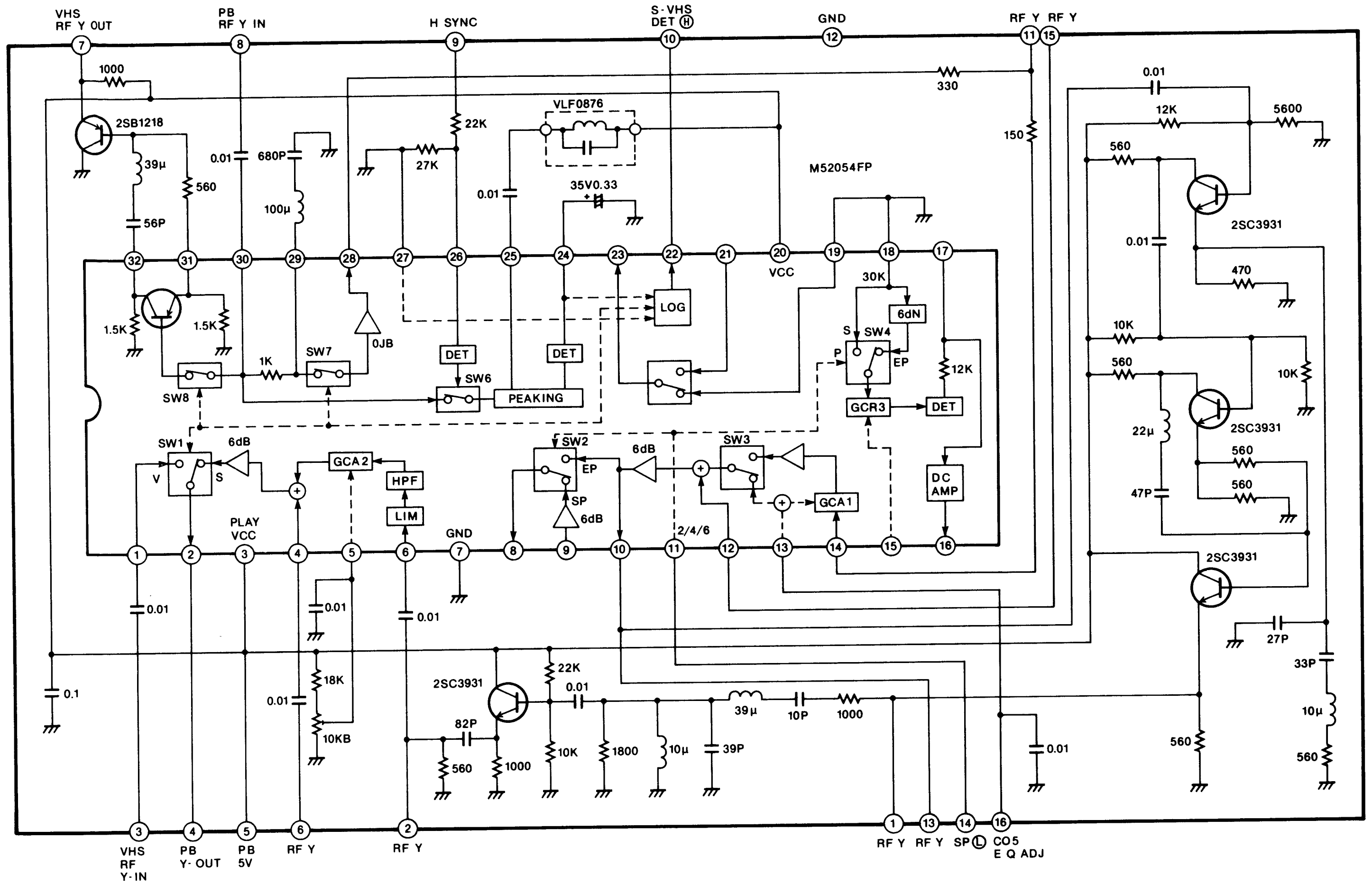
IC 3007
M52065FP
IC3001
VEFH08C
AN3237FB
Q3014
XN4501
Q3011
XN4501
Q3015
XN4601
Q3012
2SD1814
QR3004
XN4312
QR3028
XN1115(CLAMP)
QR3001
UN5212
QR3002
XN1212
QR3010
UN5212
QR3011
XN4212
QR3013
XN1212
Q3001
XN4501
FL3002
VLF0796
Q3016
2SC3931
QR3016
XN4212
Q3005
2SC3931
QR3020
UN5213
QR3003
XN1212
QR3005
XN1213
Q3003
XN1501
QR3006
UN5213
QR8010
XN1213
UN5212
UN5113
UN5213
UN5210
UN5116
2SB1218
FL 3005
ELB-4D015
FL3001
ELB4C014
FL3004
ELB4E034
FL8009
VLF0734
X8001
VSX
0188
(PICTURE COMPENSATOR)
(Y AMP)
S.VHS F. RESPONSE
VR3007
50KB
VR3001
2KB
VR8003
100KB
VR8007
20KB
VR8001
1KB
VR3009
1KB
E - LINE
C - LINE
D - LINE
A - LINE
F - LINE
S LIM BAL
PB 5V
5V
TP3011
TP3001
TP3002
TP3006
TP8002
TP8003
TP8005
TP8007
ROTARY
SUB BM
FSI
MMV
VCXO
BUFFER
APC DET
SIDE LOCK
DET ADJ
SENSE
AFC DET
3201H VCO
AFC
APC PC
ACC DET
BURST DOWN
BURST UP
ACC AMP
PB AMP
REC KILLER SW
MAIN BM
REC C
6dB
4dB
90
PICT
MIX
EDIT LNC
LOIC
HPE
LIM
LPF
NC
EE - W DELAY
CLP
MUTE
AMP
S.SEP
DET
AGC
DOC
HPF
ATT
DETAIL INC
VV : ON
DEM
EQ
ENV
PL
DOP
MOD
CLIP
NLDE NLE
ME
FM DEMOD OUT
REC Y
H sync
V sync
VIDEO IN
NL
PB
REC
7
8
9
10
11
12
13
14
15
16
17
18
19


IC 3008
VEFH10B (RF-AMP)
IC 3005
VC2031FP
(AN3292NS)
IC 3003
TL8809F
IC 3002
MST001MS
IC 3006
AN3495S
Q3005
2SC3931
Q3006
2SD1819
(PB Y FM AMP)
QR3020
UN5213
VHS PB EQ.
F - LINE
S LIM BAL.
QR3016
XN4212
QR3003
XN1212
QR3005
XN1213
QR3006
UN5213
Q3003
XN1501
Q3023
2SD1819
QR3027
XN1213
Q3004
XN4501
Q3009
2SC3931
(BUFFER)
Q3010
2SB1218
(CNR AMP)
DL8001
1H DL
QR3026
UN5113
QR3023
XN1212
QR3022
XN4215
QR3018
XN1212
FL3007
ELB4B054
FL3006
ELB4C010
FL3003
ELB4A020
FL3001
ELB4C014
FL3004
ELB4E034
YNR BALANCE
VHS MOD. IN
S-VHS MOD. IN
LNR PHASE
CNR GAIN
Y GAIN
Q3026
2SD1328
(S.C.R.Ⓡ:EE CTL)
QR3031
XN4312
Q3025
2SB1218
(BUFFER)
QR3030
XN1213
QR3033
UN5213
QR8010
XN1213
Q8510
2SD1819
Q8506
2SD1819
(S.C.R:OFF)
Q8507
2SD1819
(BUFFER)
JUMP AFC
PHASE INV.OUT LEVEL
0.5H DELAY LEVEL
P8501
P8502
(TO PAL JOG)
A - LINE
16
17
18
19
20
21
22
23
24
25
26
27
28

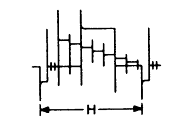
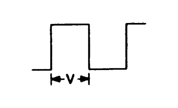
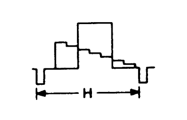
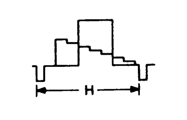
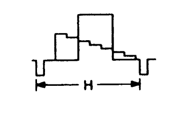
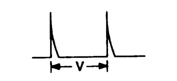
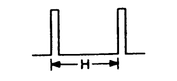
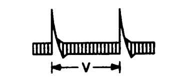
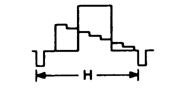
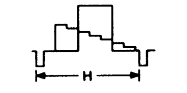
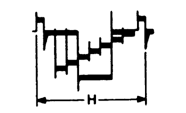
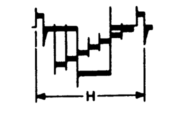
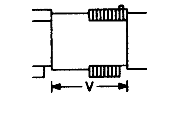
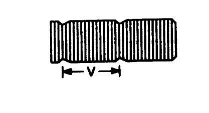
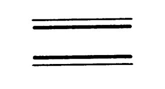
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

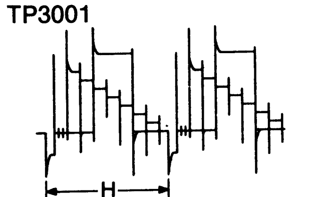
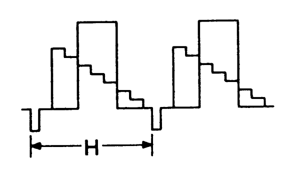
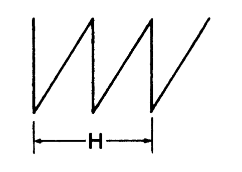
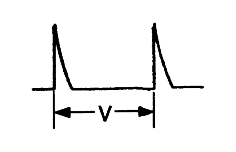
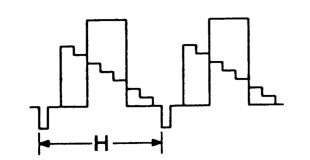
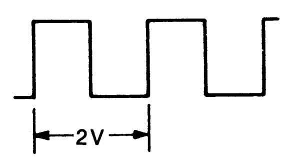
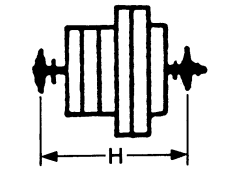
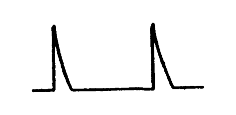
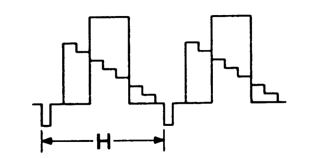
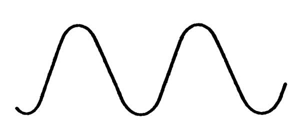
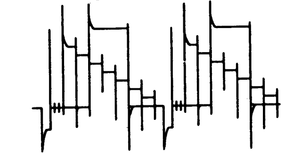
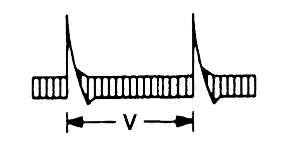
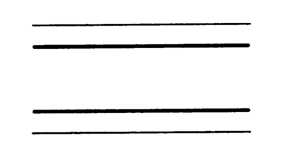
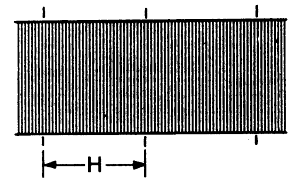
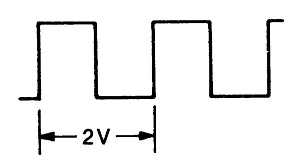
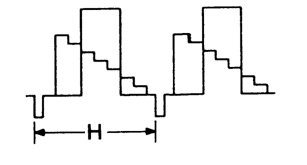
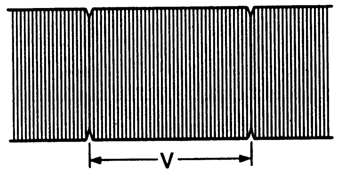
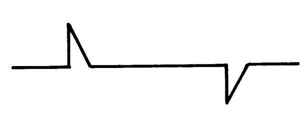
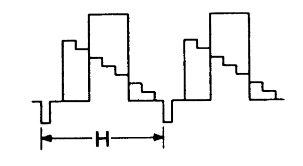
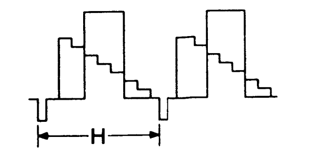
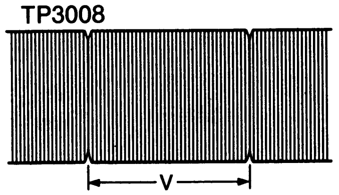
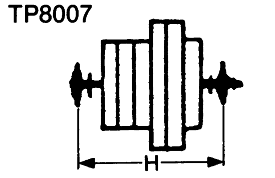
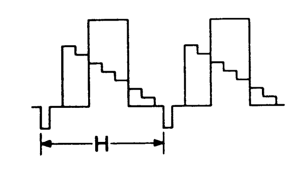
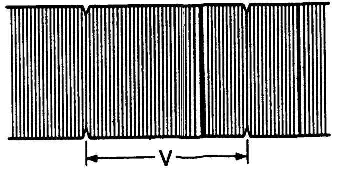
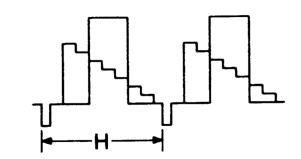
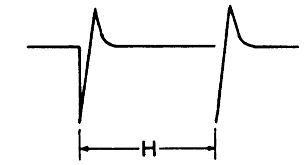
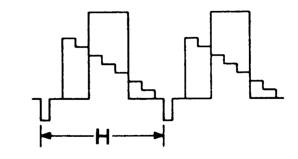
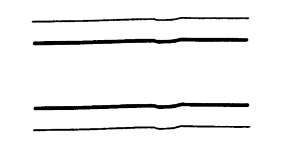
IC3008 (VEFH10B)


VHS RF Y OUT
PB RF Y IN
H SYNC
S-VHS DET Ⓗ
GND
RF Y
RF Y
2SB1218
M52054FP
VLF0876
LOG
DET
PEAKING
SW1
SW2
SW3
SW4
SW6
SW7
SW8
GCA1
GCA2
GCR3
HPF
LIM
DC AMP
6dN
VCC
PLAY VCC
GND
2SC3931
VHS RF Y-IN
PB Y-OUT
PB 5V
RF Y
RF Y
RF Y
RF Y
SPⓁ
CO5 E Q ADJ

IC3001 (VEFH08C) WAVEFORM

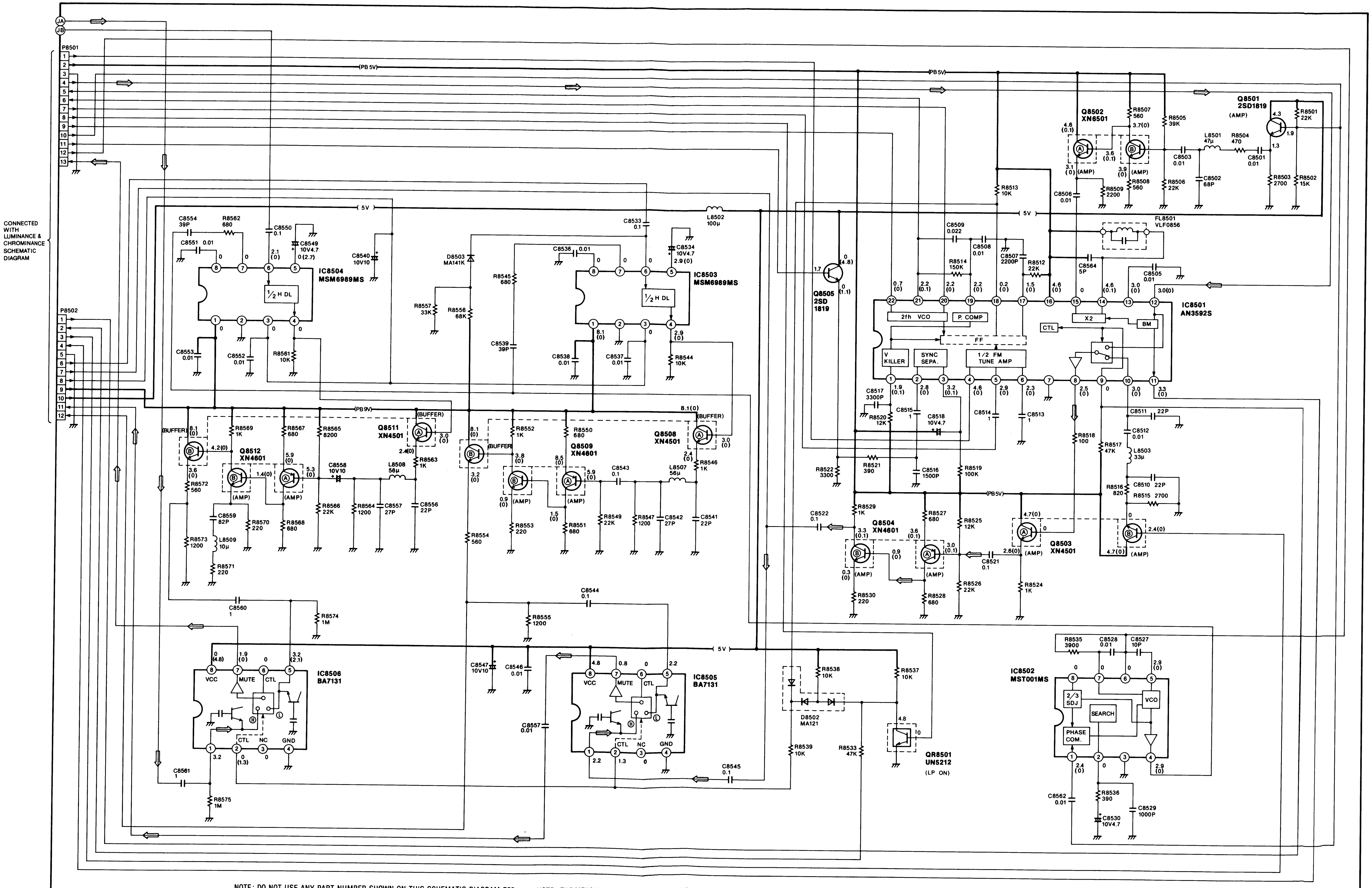
PIN No.	②	③	⑥, ⑦, ⑧	⑩, ⑬, ⑭	⑯
WAVEFORM	 0.4Vp-p (REC)	 4Vp-p (REC/PLAY)	 0.7Vp-p (REC/PLAY)	 0.3Vp-p (REC/PLAY)	 1Vp-p (REC/PLAY)
PIN No.	⑲	⑳	㉑	㉒	㉔, ㉕
WAVEFORM	 1.3Vp-p (REC/PLAY)	 4.2Vp-p (REC/PLAY)	 0.3Vp-p (REC/PLAY)	 1.6Vp-p (REC/PLAY)	 0.6Vp-p (REC/PLAY)
PIN No.	㉛	㉝	㉟	㊴	㊷
WAVEFORM	 0.3Vp-p (PLAY)	 0.1Vp-p (PLAY)	 0.7Vp-p (PLAY)	 0.6Vp-p (PLAY)	 1.4Vp-p (REC)

LUMINANCE & CHROMINANCE CIRCUIT WAVEFORM

TP3001  0.9Vp-p (REC)	TP3018  0.7Vp-p (PLAY)	TP8503  2.5Vp-p (PLAY)	IC3008-⑲  1.3Vp-p (REC/PLAY)
TP3002  0.7Vp-p (REC/PLAY)	TP8002  5Vp-p (REC/PLAY)	TP8504  0.8Vp-p (PLAY)	IC3008-⑳  4.4Vp-p (REC/PLAY)
TP3005  1.6Vp-p (REC/PLAY)	TP8003  0.3Vp-p (REC)	IC3008-②  0.3Vp-p (REC)	IC3008-㉑  0.3Vp-p (REC/PLAY)
TP3006  0.8Vp-p (REC)	TP8004  0.9Vp-p (PLAY)	IC3008-③  5Vp-p (REC/PLAY)	IC3008-㉒  1.6Vp-p (REC)
TP3007  0.2Vp-p (PLAY)	TP8005  50mVp-p (REC)	IC3008-⑥, ⑦, ⑧  0.7Vp-p (REC/PLAY)	IC3008-㉔, ㉕  0.6Vp-p (REC)
TP3008  0.6Vp-p (PLAY)	TP8007  0.9Vp-p (REC) 0.3Vp-p (PLAY)	IC3008-⑩, ⑬, ⑭, ⑯  0.3Vp-p (REC/PLAY)	IC3008-㊴  0.6Vp-p (PLAY)
TP3017  0.75Vp-p (REC/PLAY)	TP8502  0.25Vp-p (PLAY)	IC3008-⑱  0.9Vp-p (REC)	IC3008-㊷  1.1Vp-p(REC)

3-28. PAL JOG SCHEMATIC DIAGRAM

⇦ MAIN SIGNAL PATH IN PLAYBACK MODE


JA
JB
P8501
P8502
CONNECTED WITH LUMINANCE & CHROMINANCE SCHEMATIC DIAGRAM
(PB 5V)
(PB 9V)
5V
IC8504 MSM6989MS
IC8503 MSM6989MS
½ H DL
IC8501 AN3592S
2fh VCO
P. COMP
FF
V KILLER
SYNC SEPA.
1/2 FM TUNE AMP
CTL
X2
BM
IC8502 MST001MS
2/3 SDJ
SEARCH
PHASE COM.
VCO
IC8506 BA7131
IC8505 BA7131
VCC
MUTE
CTL
NC
GND
Q8501 2SD1819 (AMP)
Q8502 XN6501 (AMP)
Q8503 XN4501 (AMP)
Q8504 XN4601 (AMP)
Q8505 2SD 1819
Q8508 XN4501 (BUFFER)
Q8509 XN4601 (AMP)
Q8511 XN4501 (BUFFER)
Q8512 XN4601 (AMP)
QR8501 UN5212 (LP ON)
D8502 MA121
D8503 MA141K
FL8501 VLF0856
L8501 47µ
L8502 100µ
L8503 33µ
L8507 56µ
L8508 56µ
L8509 10µ
R8501 22K
R8502 15K
R8503 2700
R8504 470
R8505 39K
R8506 22K
R8507 560
R8508 560
R8509 2200
R8512 22K
R8513 10K
R8514 150K
R8515 2700
R8516 820
R8517 47K
R8518 100
R8519 100K
R8520 12K
R8521 390
R8522 3300
R8524 1K
R8525 12K
R8526 22K
R8527 680
R8528 680
R8529 1K
R8530 220
R8533 47K
R8535 3900
R8536 390
R8537 10K
R8538 10K
R8539 10K
R8541 22P
R8544 10K
R8545 680
R8546 1K
R8547 1200
R8549 22K
R8550 680
R8551 680
R8552 1K
R8553 220
R8554 560
R8555 1200
R8556 68K
R8557 33K
R8561 10K
R8562 680
R8563 1K
R8564 1200
R8565 8200
R8566 22K
R8567 680
R8568 680
R8569 1K
R8570 220
R8571 220
R8572 560
R8573 1200
R8574 1M
R8575 1M
C8501 0.01
C8502 68P
C8503 0.01
C8505 0.01
C8506 0.01
C8507 2200P
C8508 0.01
C8509 0.022
C8510 22P
C8511 22P
C8512 0.01
C8513 1
C8514 1
C8515 1
C8516 1500P
C8517 3300P
C8518 10V4.7
C8521 0.1
C8522 0.1
C8527 10P
C8528 0.01
C8529 1000P
C8530 10V4.7
C8533 0.1
C8534 10V4.7
C8536 0.01
C8537 0.01
C8538 0.01
C8539 39P
C8540 10V10
C8542 27P
C8543 0.1
C8544 0.1
C8545 0.1
C8546 0.01
C8547 10V10
C8549 10V4.7
C8550 0.1
C8551 0.01
C8552 0.01
C8553 0.01
C8554 39P
C8556 22P
C8557 27P
C8557 0.01
C8558 10V10
C8559 82P
C8560 1
C8561 1
C8562 0.01
C8564 5P
PAL JOG C.B.A. (VEP03771A)

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.

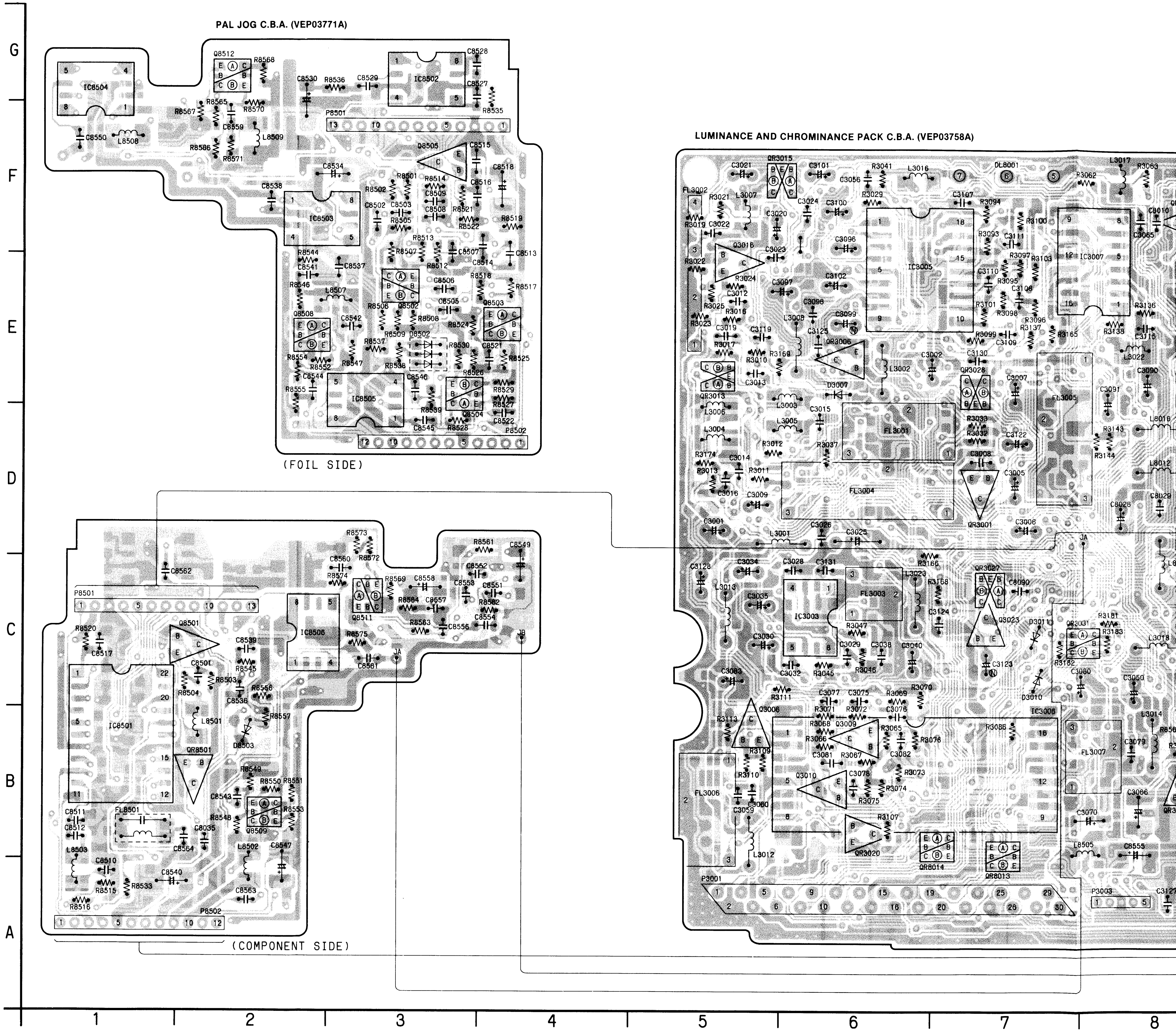
NOTE: THIS PAL JOG C.B.A. IS INCLUDED IN LUMINANCE & CHROMINANCE PACK C.B.A. (VEP03758A)

Back Page:
LUMINANCE & CHROMINANCE Section

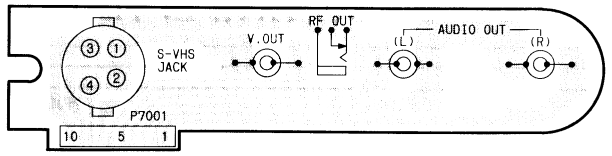
LUMINANCE & CHROMINANCE PACK C.B.A.		
Transistor		
Q3001	F-15	Ⓕ
Q3003	D-15	Ⓕ
Q3004	C-15	Ⓕ
Q3005	B-16	Ⓕ
Q3006	B-5	©
Q3008	B-9	©
Q3009	B-6	©
Q3010	B-6	©
Q3011	E-13	Ⓕ
Q3012	D-13	Ⓕ
Q3014	F-13	Ⓕ
Q3015	D-14	Ⓕ
Q3016	F-5	©
Q3021	B-9	©
Q3022	B-9	©
Q3023	C-7	©
Q3025	B-12	Ⓕ
Q3026	C-9	©
Q8501	C-2	©
Q8502	E-3	Ⓕ
Q8503	E-4	Ⓕ
Q8504	D-3	Ⓕ
Q8505	F-3	Ⓕ
Q8506	B-12	Ⓕ
Q8507	A-9	©
Q8508	E-2	Ⓕ
Q8509	B-2	©
Q8510	C-8	©
Q8511	C-3	©
Q8512	G-2	Ⓕ
Transistor & Resistor		
QR3001	D-7	©
QR3002	E-15	Ⓕ
QR3003	F-15	Ⓕ
QR3004	E-15	Ⓕ
QR3005	D-15	Ⓕ
QR3006	E-6	©
QR3010	D-16	Ⓕ
QR3011	E-15	Ⓕ
QR3013	E-5	©
QR3015	F-5	©
QR3016	F-15	Ⓕ
QR3018	C-9	©
QR3020	B-6	©
QR3022	B-12	Ⓕ
QR3023	B-12	Ⓕ
QR3026	C-14	Ⓕ
QR3027	C-7	©
QR3028	E-7	©
QR3030	B-11	Ⓕ
QR3031	C-7	©
QR3033	B-8	©
QR8001	D-12	Ⓕ
QR8004	D-9	©
QR8006	D-13	Ⓕ
QR8007	D-12	Ⓕ
QR8009	F-8	©
QR8010	D-9	©
QR8011	D-11	Ⓕ
QR8013	A-7	©
QR8014	A-7	©
QR8501	B-2	©
Integrated Circuit		
IC3001	F-14	Ⓕ
IC3002	C-15	Ⓕ
IC3003	C-6	©
IC3004	B-9	©
IC3005	E-6	©
IC3006	B-14	Ⓕ
IC3007	E-8	©
IC3008	B-7	©
IC8001	F-9	©
IC8002	E-13	Ⓕ
IC8501	B-1	©
IC8502	G-3	Ⓕ
IC8503	F-2	Ⓕ
IC8504	G-1	Ⓕ
IC8505	E-3	Ⓕ
IC8506	C-2	©
Test Point		
TP3001	E-14	Ⓕ
TP3002	D-14	Ⓕ
TP3004	F-13	Ⓕ
TP3005	C-12	Ⓕ
TP3006	C-14	Ⓕ
TP3007	B-16	Ⓕ
TP3008	D-15	Ⓕ
TP3009	B-12	Ⓕ
TP3010	C-15	Ⓕ
TP3011	B-12	Ⓕ
TP3017	B-13	Ⓕ
TP3018	C-15	Ⓕ
TP8001	F-11	Ⓕ
TP8002	F-12	Ⓕ
TP8003	E-12	Ⓕ
TP8004	D-12	Ⓕ
TP8005	E-13	Ⓕ
TP8006	E-13	Ⓕ
TP8007	F-11	Ⓕ
TP8501	A-11	Ⓕ
TP8502	C-12	Ⓕ
TP8503	C-11	Ⓕ
TP8504	B-12	Ⓕ
TP8505	A-13	Ⓕ
Adjustment		
C8066	E-13	Ⓕ
VR3001	B-15	Ⓕ
VR3002	C-14	Ⓕ
VR3003	B-14	Ⓕ
VR3004	F-13	Ⓕ
VR3005	F-14	Ⓕ
VR3006	B-13	Ⓕ
VR3007	B-15	Ⓕ
VR3008	C-12	Ⓕ
VR3009	E-13	Ⓕ
VR3010	E-14	Ⓕ
VR3011	C-14	Ⓕ
VR3012	B-15	Ⓕ
VR8001	F-12	Ⓕ
VR8002	E-12	Ⓕ
VR8003	F-12	Ⓕ
VR8007	E-12	Ⓕ
VR8501	B-12	Ⓕ
VR8502	C-12	Ⓕ
VR8503	B-13	Ⓕ
VR8504	C-13	Ⓕ
Connector		
P3001	A-5	©
P3001	A-14	Ⓕ
P3002	C-10	©
P3002	C-11	Ⓕ
P3003	A-8	©
P3003	A-13	Ⓕ
P7001	F-10	Ⓕ
P8501	C-1	©
P8501	F-3	Ⓕ
P8502	A-2	©
P8502	D-4	Ⓕ

ADDRESS INFORMATION
©...COMPONENT SIDE
Ⓕ...FOIL SIDE

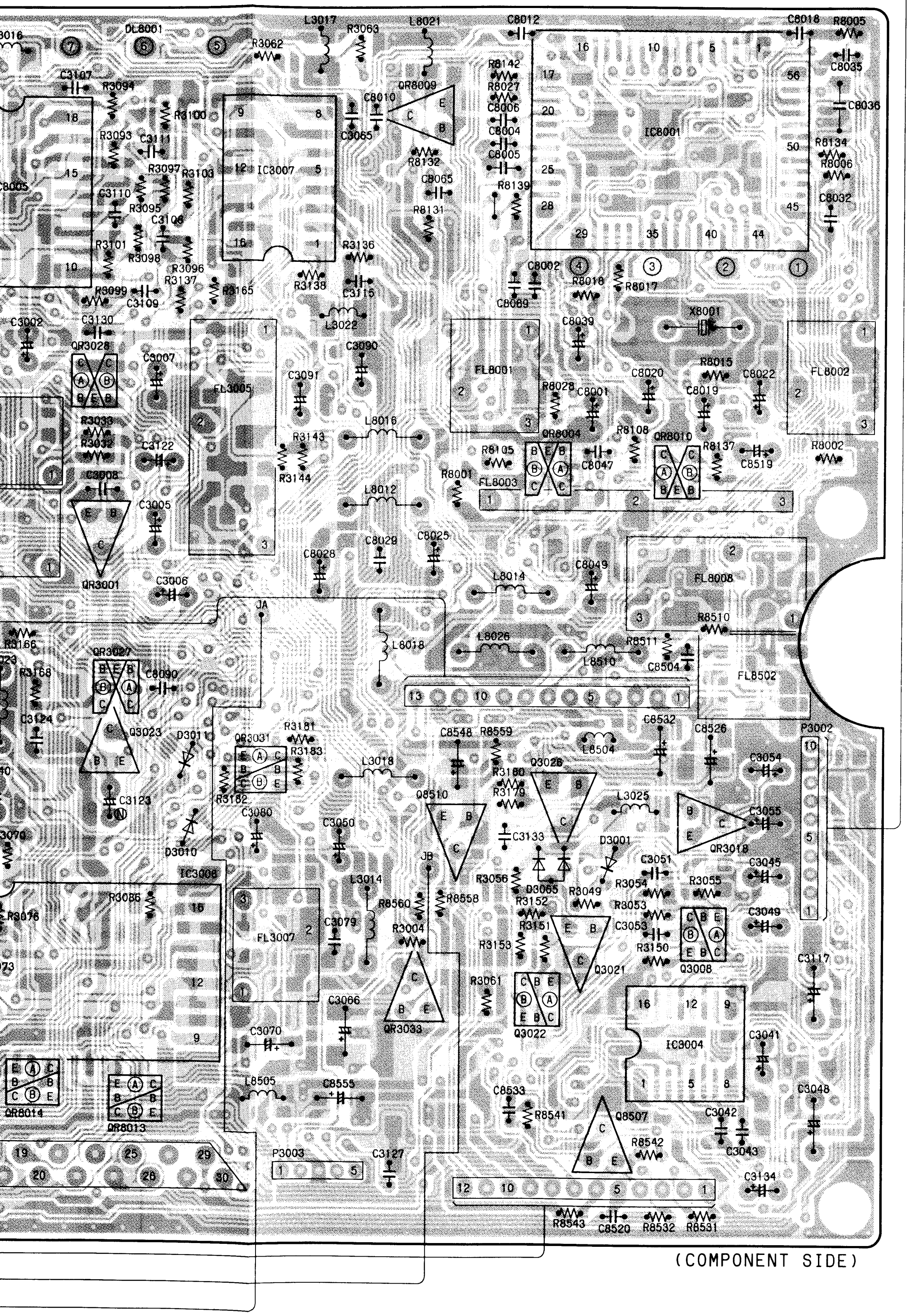
3-29. LUMINANCE & CHROMINANCE PACK C.B.A. (VEP03758A)/PAL JOG C.B.A. (VEP03771A)


PAL JOG C.B.A. (VEP03771A)
(FOIL SIDE)
(COMPONENT SIDE)
LUMINANCE AND CHROMINANCE PACK C.B.A. (VEP03758A)
IC8504
IC8502
IC8503
IC8505
IC8501
IC8506
IC3005
IC3007
IC3003
IC3008
P8501
P8502
P3001
P3003
FL3001
FL3002
FL3003
FL3004
FL3005
FL3006
FL3007
FL8501
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8

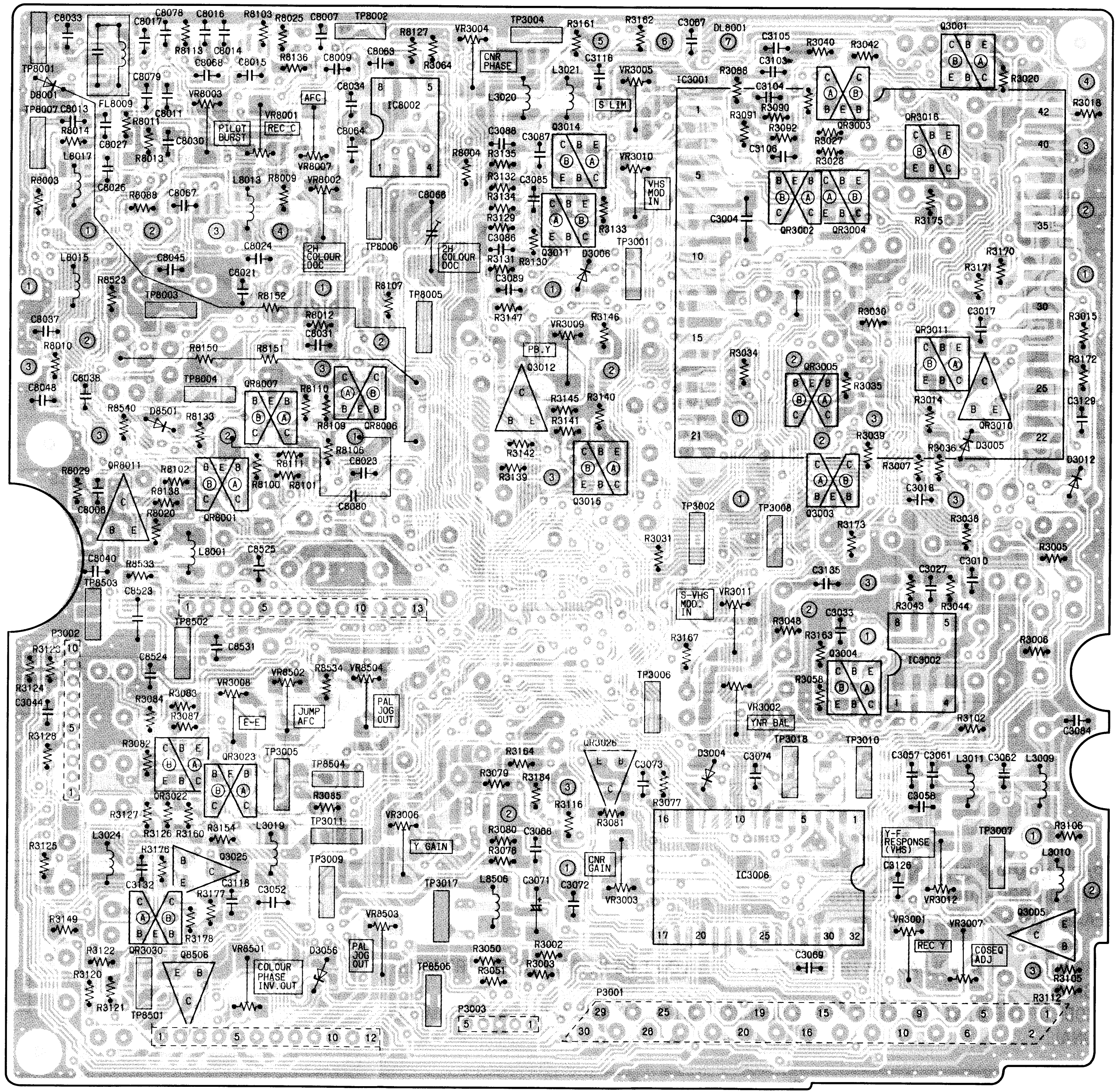
AV JACK C.B.A. (VEK4745)


S-VHS JACK
V.OUT
RF OUT
AUDIO OUT
(L)
(R)
P7001
10
5
1

(VEP03758A)


DL8001
L3017
R3063
L8021
C8012
C8018
R8005
IC8001
IC3007
QR8009
X8001
FL8001
FL8002
FL3005
FL8003
FL8008
FL8502
FL3007
QR3028
QR3001
QR3027
QR3031
QR8004
QR8010
QR3018
QR3033
Q3021
Q3022
Q3008
QR8014
QR8013
Q8510
Q8507
IC3004
IC3008
P3002
P3003
L3022
L8016
L8012
L8014
L8018
L8026
L8510
L3019
L3025
L8504
L3014
L8505
D3028
D3001
D3011
D3010
D3065
JA
JB

(COMPONENT SIDE)

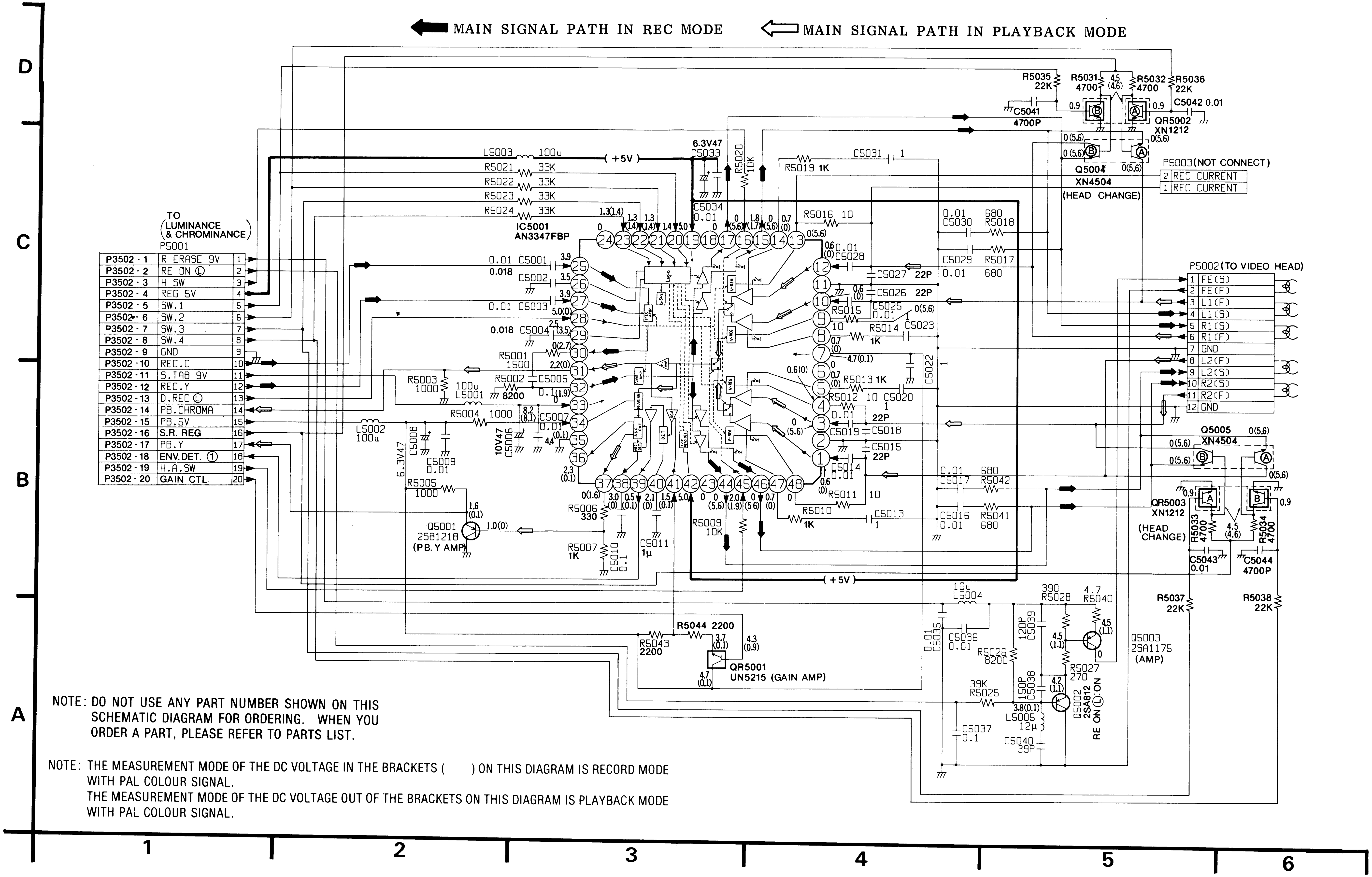

C8033
TP8001
TP8002
TP3004
TP8007
FL8009
VR8003
PILOT BURST
REC C
AFC
VR8001
VR8007
VR8002
IC8002
CNR PHASE
L3021
L3020
S LIM
VR3005
IC3001
QR3003
QR3016
Q3001
Q3014
VR3010
VHS MOD IN
2H COLOUR DOC
TP8006
TP8003
TP8005
TP3001
QR3002
QR3004
QR3011
QR3010
PB.Y
Q3012
VR3009
QR8007
QR8006
QR3005
Q3015
QR8011
QR8001
Q3003
TP3002
TP3008
S-VHS MOD. IN
VR3011
Q3004
IC3002
TP8503
P3002
TP8502
VR3008
E-E
JUMP AFC
VR8502
VR8504
PAL JOG OUT
TP3006
VR3002
YNR BAL
TP3018
TP3010
QR3022
QR3023
TP3005
TP8504
QR3026
D3004
L3011
L3009
VR3006
Y GAIN
TP3011
TP3009
Q3025
L3024
QR3030
CNR GAIN
VR3003
IC3006
Y-F RESPONSE (VHS)
VR3012
TP3007
L3010
Q3005
VR3001
REC Y
VR3007
COSEQ ADJ
VR8503
VR8501
COLOUR PHASE INV. OUT
D3056
PAL JOG OUT
TP3017
L8506
Q8506
TP8501
TP8505
P3003
P3001

(FOIL SIDE)

NOTE: NO.IN "○" SHOWS PIN NUMBER OF THE FILTERS.

7 8 9 10 11 12 13 14 15 16

3-30. VIDEO HEAD AMP SCHEMATIC DIAGRAM

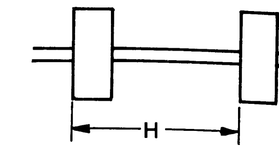

MAIN SIGNAL PATH IN REC MODE
MAIN SIGNAL PATH IN PLAYBACK MODE
TO (LUMINANCE & CHROMINANCE)
P5001
P3502 - 1 R ERASE 9V 1
P3502 - 2 RE ON Ⓛ 2
P3502 - 3 H SW 3
P3502 - 4 REG 5V 4
P3502 - 5 SW.1 5
P3502 - 6 SW.2 6
P3502 - 7 SW.3 7
P3502 - 8 SW.4 8
P3502 - 9 GND 9
P3502 - 10 REC.C 10
P3502 - 11 S.TAB 9V 11
P3502 - 12 REC.Y 12
P3502 - 13 D.REC Ⓛ 13
P3502 - 14 PB.CHROMA 14
P3502 - 15 PB.5V 15
P3502 - 16 S.R. REG 16
P3502 - 17 PB.Y 17
P3502 - 18 ENV.DET. ① 18
P3502 - 19 H.A.SW 19
P3502 - 20 GAIN CTL 20
IC5001 AN3347FBP
L5003 100u
(+5V)
R5021 33K
R5022 33K
R5023 33K
R5024 33K
6.3V47 C5033
C5034 0.01
R5020 10K
R5019 1K
C5031 1
R5016 10
C5030 0.01
R5018 680
C5029 0.01
R5017 680
C5001 0.01 0.018
C5002
C5003 0.01
C5004 0.018
R5001 1500
R5003 1000
L5001 100u
R5002 8200
C5005 0.1
R5004 1000
C5007 0.01
L5002 100u
C5008 6.3V47
C5006 10V47
C5009 0.01
R5005 1000
Q5001 2SB1218 (PB.Y AMP)
R5006 330
R5007 1K
C5010 0.1
C5011 1µ
R5009 10K
C5027 22P
C5026 22P
R5015 10
C5025 0.01
R5014 1K
C5023
C5022 1
R5013 1K
R5012 10
C5020 1
C5019 0.01
C5018 22P
C5015 22P
C5014 0.01
R5011 10
R5010 1K
C5013 1
C5017 0.01
R5042 680
C5016 0.01
R5041 680
(+5V)
R5035 22K
R5031 4700
R5032 4700
R5036 22K
C5042 0.01
C5041 4700P
QR5002 XN1212
Q5004 XN4504 (HEAD CHANGE)
P5003 (NOT CONNECT)
2 REC CURRENT
1 REC CURRENT
P5002 (TO VIDEO HEAD)
1 FE(S)
2 FE(F)
3 L1(F)
4 L1(S)
5 R1(S)
6 R1(F)
7 GND
8 L2(F)
9 L2(S)
10 R2(S)
11 R2(F)
12 GND
Q5005 XN4504
QR5003 XN1212 (HEAD CHANGE)
R5033 4700
R5034 4700
C5043 0.01
C5044 4700P
R5037 22K
R5038 22K
L5004 10u
C5035 0.01
C5036 0.01
R5026 8200
C5039 120P
R5028 390
R5040 4.7
Q5003 2SA1175 (AMP)
R5027 270
R5025 39K
C5038 150P
L5005 12µ
Q5002 2SA812 RE ON Ⓛ:ON
C5037 0.1
C5040 39P
R5044 2200
R5043 2200
QR5001 UN5215 (GAIN AMP)
D
C
B
A
1
2
3
4
5
6

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.

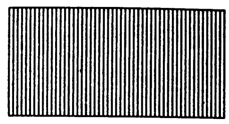
VIDEO HEAD AMP CIRCUIT WAVEFOR

IC5001-㉕



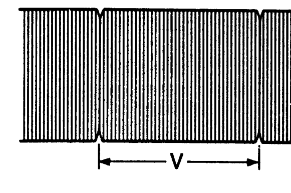
130mVp-p (REC)

IC5001-㉗



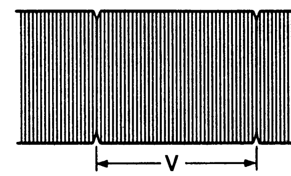
130mVp-p (REC)

IC5001-㉛



0.2Vp-p (PLAY)

IC5001-㊲



240mVp-p (PLAY)

VIDEO HEAD AMP C.	
Transistor	
Q5001 Q5002 Q5003 Q5004 Q5005	B-3 C-6 C-1 B-5 B-4
Transistor & Resistor	
QR5002 QR5003	B-5 B-4
Integrated Circuit	
IC5001	B-2
Connector	
P5001 P5001 P5002 P5003 P5003	A-1 A-5 C-2 B-2 B-6

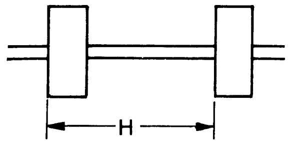
ADDRESS INFORMATIO
Ⓒ...COMPONENT SIDE
Ⓕ...FOIL SIDE

Back Page:
LUMINANCE & CHROMINANCE,
PAL JOG Section

3-31. VIDEO HEAD AMP C.B.A. (VEP05161A)

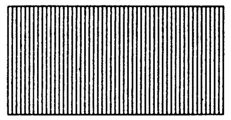
VIDEO HEAD AMP CIRCUIT WAVEFORM

IC5001-㉕



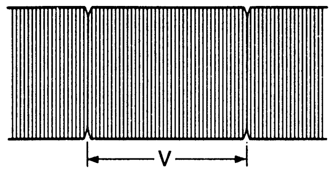
130mVp-p (REC)

IC5001-㉗



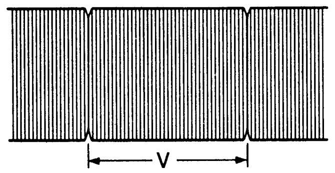
130mVp-p (REC)

IC5001-㉛

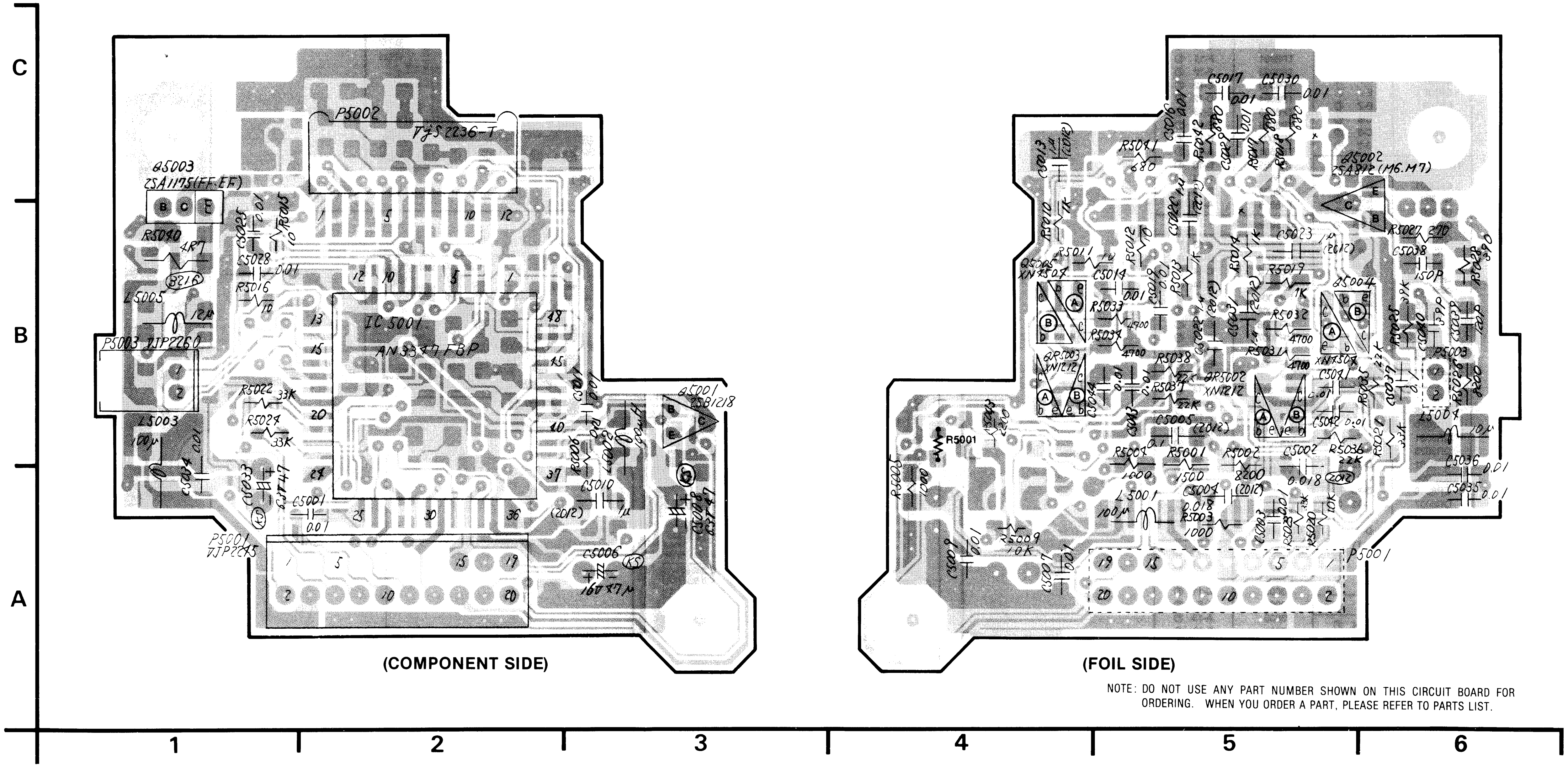


0.2Vp-p (PLAY)

IC5001-㊲



240mVp-p (PLAY)


C
B
A
1
2
3
4
5
6
P5002
7JS2236-T
Q5003
2SA1175(FF-EF)
B
C
E
R5010
4R7
L5005
12μ
P5003 7JP2260
L5003
100μ
C5004
0.01
C5025
0.01
C5028
0.01
R5016
10
R5022
33K
R5024
33K
C5033
C5001
0.01
IC5001
AN3347FBP
Q5001
2SB1218
C5010
1μ
C5006
16V47μ
P5001
7JP2245
C5017
0.01
C5030
0.01
R5041
680
Q5002
2SA812(M6,M7)
R5027
270
C5038
150P
Q5005
XN4507
C5014
0.01
R5033
R5034
4700
R5011
1K
R5019
1K
R5032
4700
Q5004
QR5003
XN1212
QR5002
XN1212
R5038
22K
C5005
C5042
0.01
C5041
XN4507
L5004
10μ
C5036
0.01
C5035
0.01
R5001
R5005
1000
R5007
1000
R5001
1500
R5002
8200
C5002
0.018
R5036
22K
L5001
100μ
C5009
0.018
R5003
1000
R5009
10K
C5008
0.01
C5007
0.01
R5020
10K
R5023
P5001

(COMPONENT SIDE)

(FOIL SIDE)

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS CIRCUIT BOARD FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

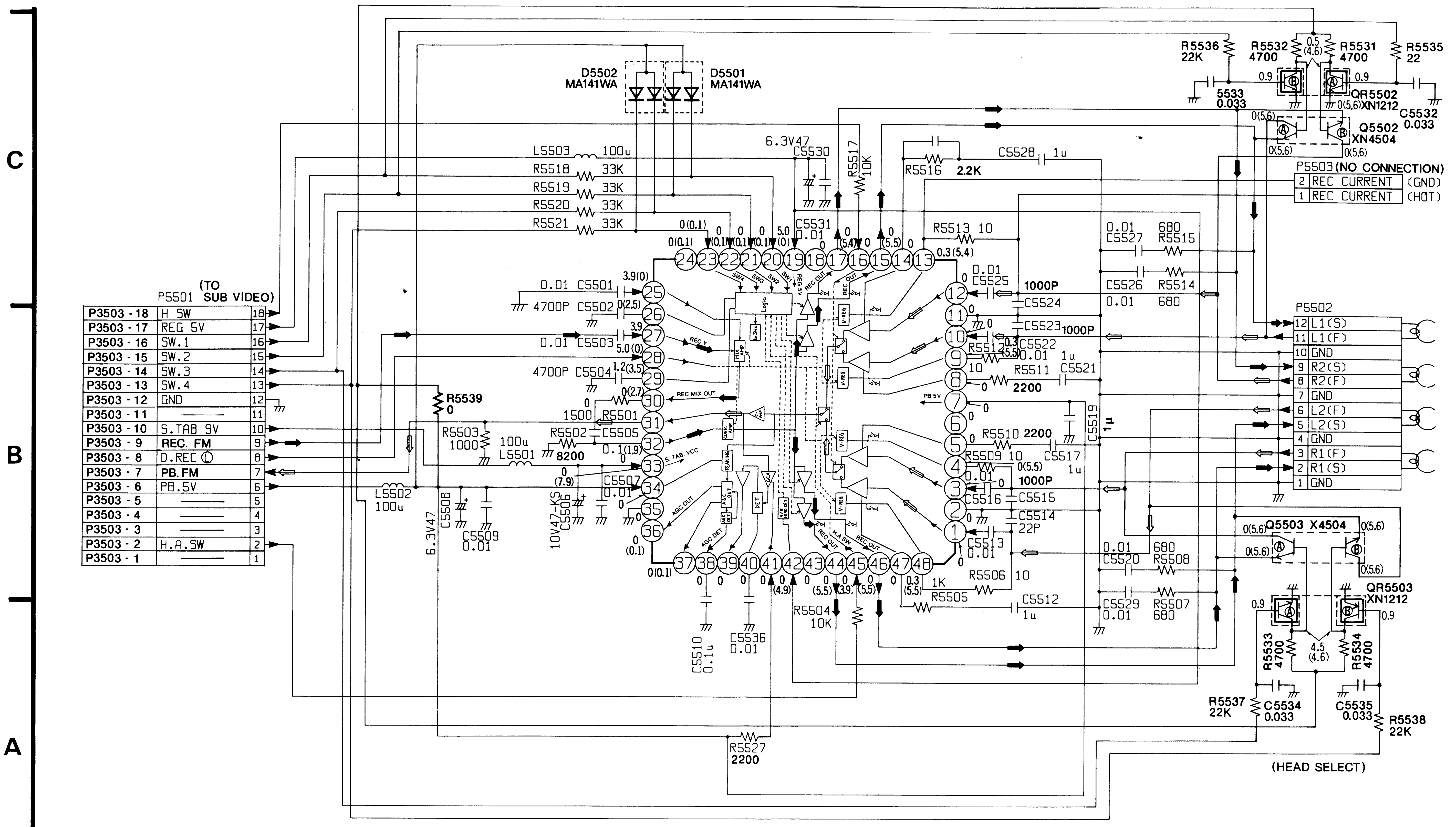
VIDEO HEAD AMP C.B.A.	
Transistor	
Q5001	B-3 Ⓒ
Q5002	C-6 Ⓕ
Q5003	C-1 Ⓒ
Q5004	B-5 Ⓕ
Q5005	B-4 Ⓕ
Transistor & Resistor	
QR5002	B-5 Ⓕ
QR5003	B-4 Ⓕ
Integrated Circuit	
IC5001	B-2 Ⓒ
Connector	
P5001	A-1 Ⓒ
P5001	A-5 Ⓕ
P5002	C-2 Ⓒ
P5003	B-2 Ⓒ
P5003	B-6 Ⓕ

ADDRESS INFORMATION
Ⓒ...COMPONENT SIDE
Ⓕ...FOIL SIDE

3-32. Hi-Fi AUDIO HEAD AMP SCHEMATIC DIAGRAM

MAIN SIGNAL PATH IN REC MODE

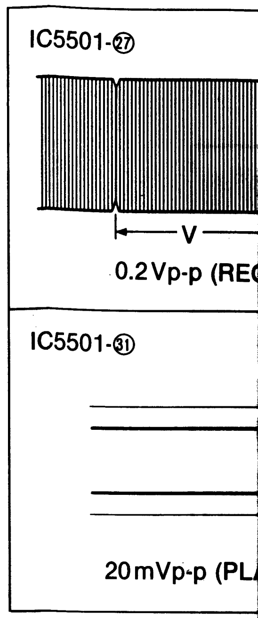
MAIN SIGNAL PATH IN PLAYBACK MODE


(HEAD SELECT)
R5536 22K
R5532 4700
R5531 4700
R5535 22
5533 0.033
QR5502 XN1212
C5532 0.033
Q5502 XN4504
P5503 (NO CONNECTION)
2 REC CURRENT (GND)
1 REC CURRENT (HOT)
D5502 MA141WA
D5501 MA141WA
L5503 100u
R5518 33K
R5519 33K
R5520 33K
R5521 33K
6.3V47 C5530
R5517 10K
R5516 2.2K
C5528 1u
C5531 0.01
R5513 10
0.01 C5527
680 R5515
C5526 0.01
R5514 680
0.01 C5525
1000P C5524
C5523 1000P
R5512 10
C5522 0.01 1u
R5511 2200
C5521
C5519 1u
R5510 2200
C5517 1u
R5509 10
0.01 1000P C5516
C5515
C5514 22P
C5513 0.01
0.01 C5520
680 R5508
R5506 10
1K R5505
C5512 1u
C5529 0.01
R5507 680
R5504 10K
C5510 0.1u
C5536 0.01
P5502
12 L1(S)
11 L1(F)
10 GND
9 R2(S)
8 R2(F)
7 GND
6 L2(F)
5 L2(S)
4 GND
3 R1(F)
2 R1(S)
1 GND
Q5503 X4504
QR5503 XN1212
R5533 4700
R5534 4700
R5537 22K
C5534 0.033
C5535 0.033
R5538 22K
R5527 2200
(HEAD SELECT)
(TO SUB VIDEO)
P5501
P3503 - 18 H SW 18
P3503 - 17 REG 5V 17
P3503 - 16 SW.1 16
P3503 - 15 SW.2 15
P3503 - 14 SW.3 14
P3503 - 13 SW.4 13
P3503 - 12 GND 12
P3503 - 11 11
P3503 - 10 S.TAB 9V 10
P3503 - 9 REC. FM 9
P3503 - 8 D.REC Ⓛ 8
P3503 - 7 PB.FM 7
P3503 - 6 PB.5V 6
P3503 - 5 5
P3503 - 4 4
P3503 - 3 3
P3503 - 2 H.A.SW 2
P3503 - 1 1
0.01 C5501
4700P C5502
0.01 C5503
4700P C5504
R5539 0
1500 R5501
R5503 1000
100u L5501
R5502 8200
C5505
L5502 100u
6.3V47 C5508
C5509 0.01
10V47-KS C5506
C5507 0.01
REC MIX OUT
REC Y
S.TAB VCC
AGC OUT
AGC DET
PB 5V
REC OUT
H.A.SW
Logic
DET
SW1
SW2
SW3
SW4
REG 5V
V-REG

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS (   ) ON THIS DIAGRAM IS RECORD MODE.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE.

Hi-Fi AUDIO HEA
CIRCUIT WAVEF



Hi-Fi AUDIO H
C.B.A.

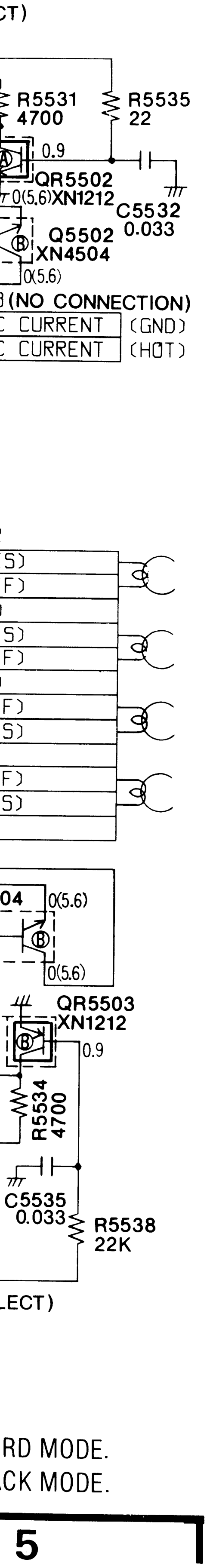
Transistor
Q5502
Q5503

Transistor & R
QR5502
QR5503

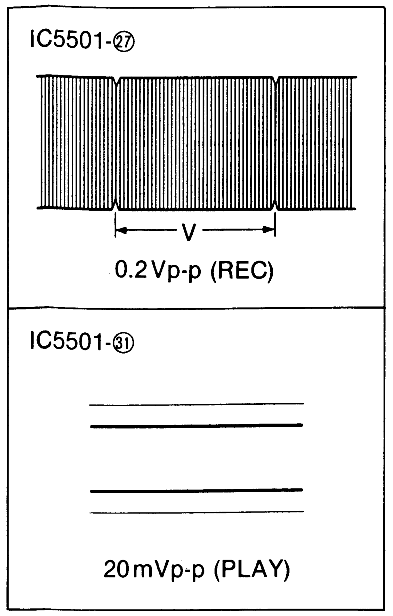
Integrated Circ
IC5501

Connector
P5501
P5501
P5502
P5502
P5503
P5503

ADDRESS INFOR
Ⓒ...COMPONENT
Ⓕ...FOIL SIDE


CT)
R5531
4700
R5535
22
0.9
QR5502
0(5.6)XN1212
C5532
0.033
Q5502
XN4504
0(5.6)
(NO CONNECTION)
C CURRENT (GND)
C CURRENT (HOT)
04
0(5.6)
0(5.6)
QR5503
XN1212
0.9
R5534
4700
C5535
0.033
R5538
22K
LECT)
RD MODE.
CK MODE.
5

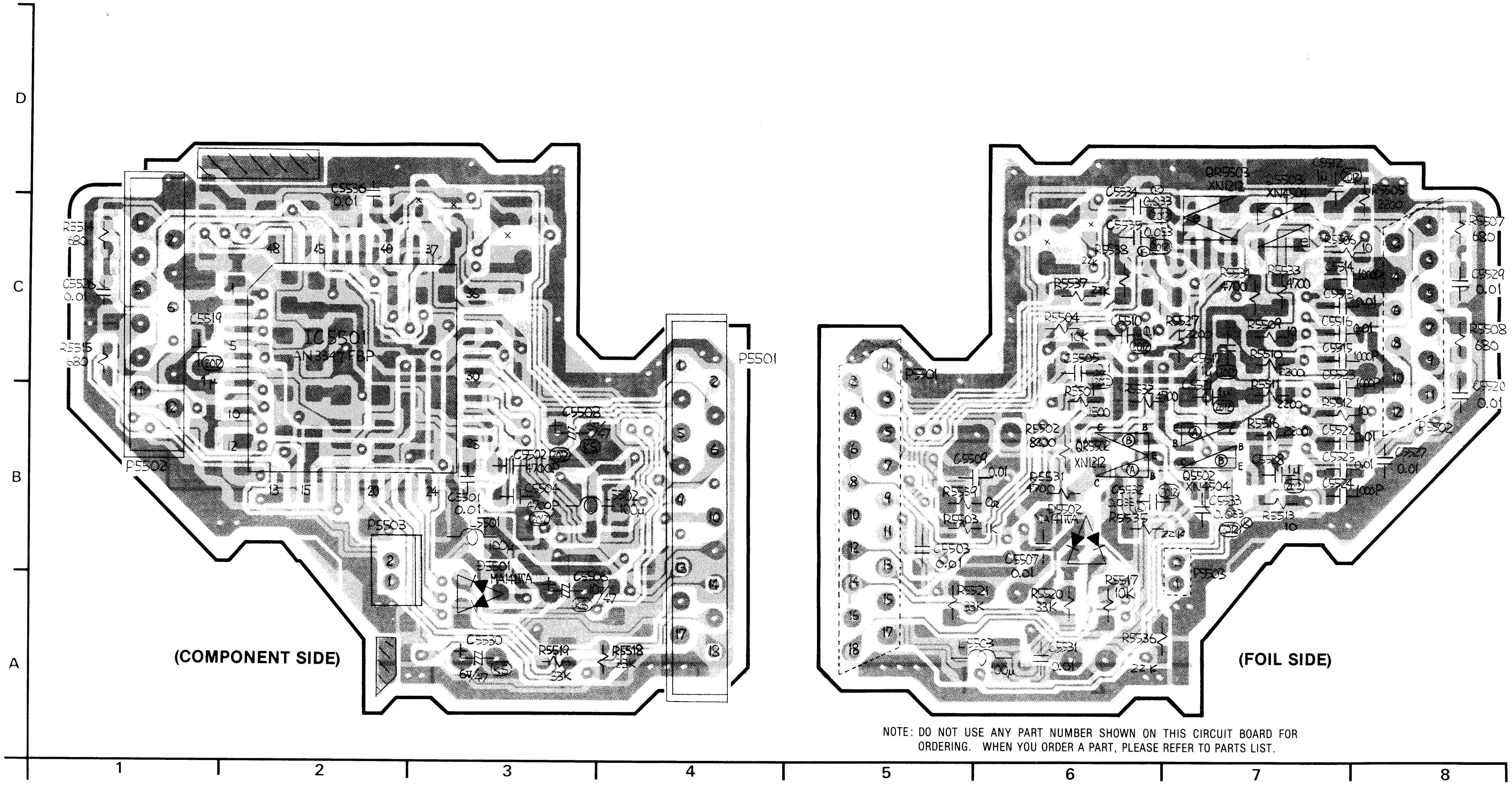
Hi-Fi AUDIO HEAD AMP CIRCUIT WAVEFORM



Hi-Fi AUDIO HEAD AMP C.B.A.	
Transistor	
Q5502 Q5503	B-7 Ⓕ D-7 Ⓕ
Transistor & Resistor	
QR5502 QR5503	B-6 Ⓕ D-7 Ⓕ
Integrated Circuit	
IC5501	C-2 Ⓒ
Connector	
P5501 P5501 P5502 P5502 P5503 P5503	C-4 Ⓒ C-5 Ⓕ B-1 Ⓒ B-8 Ⓕ B-2 Ⓒ B-7 Ⓕ

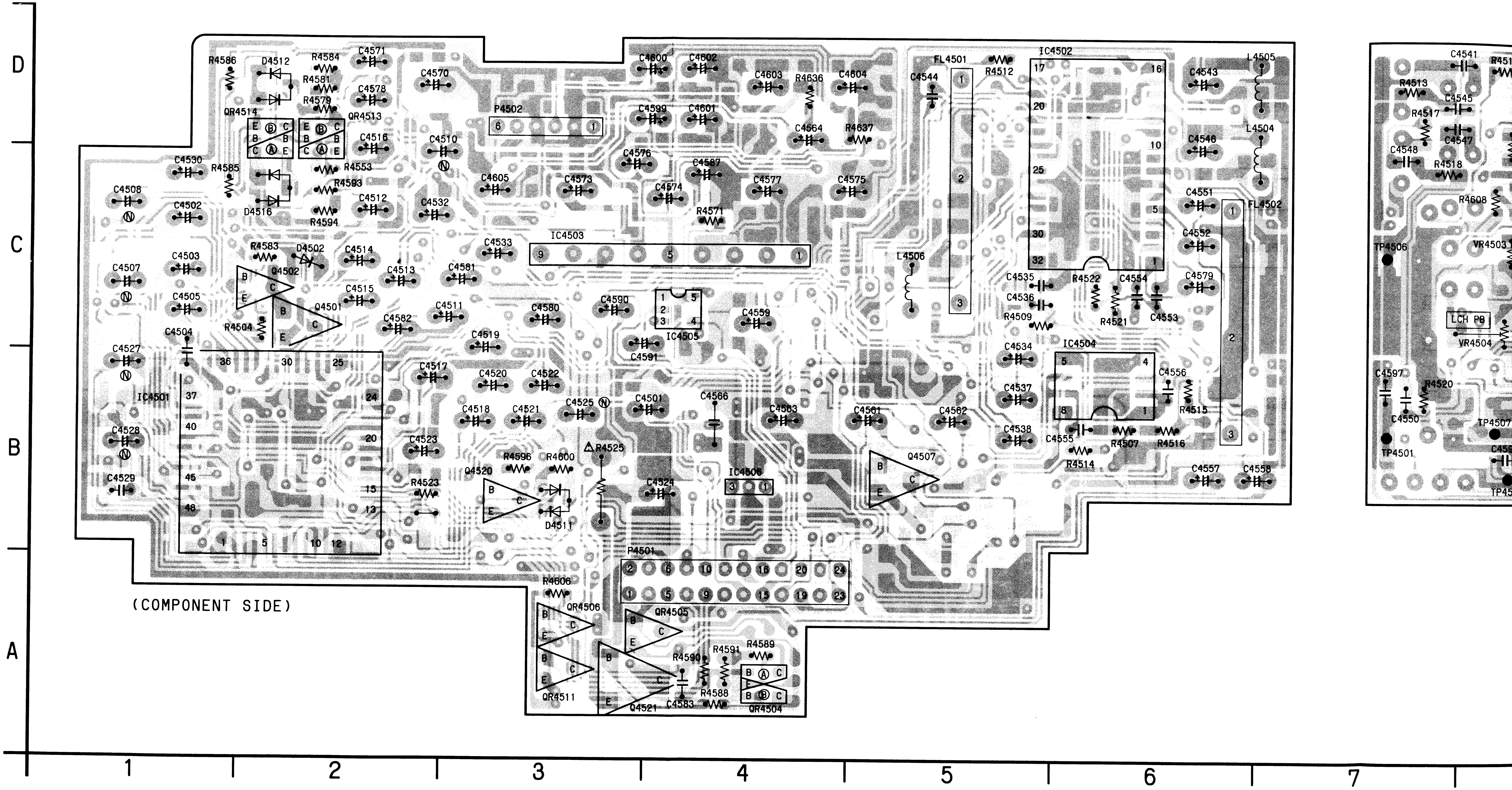
ADDRESS INFORMATION
Ⓒ...COMPONENT SIDE
Ⓕ...FOIL SIDE

3-33. Hi-Fi AUDIO HEAD AMP C.B.A. (VEP05153A)

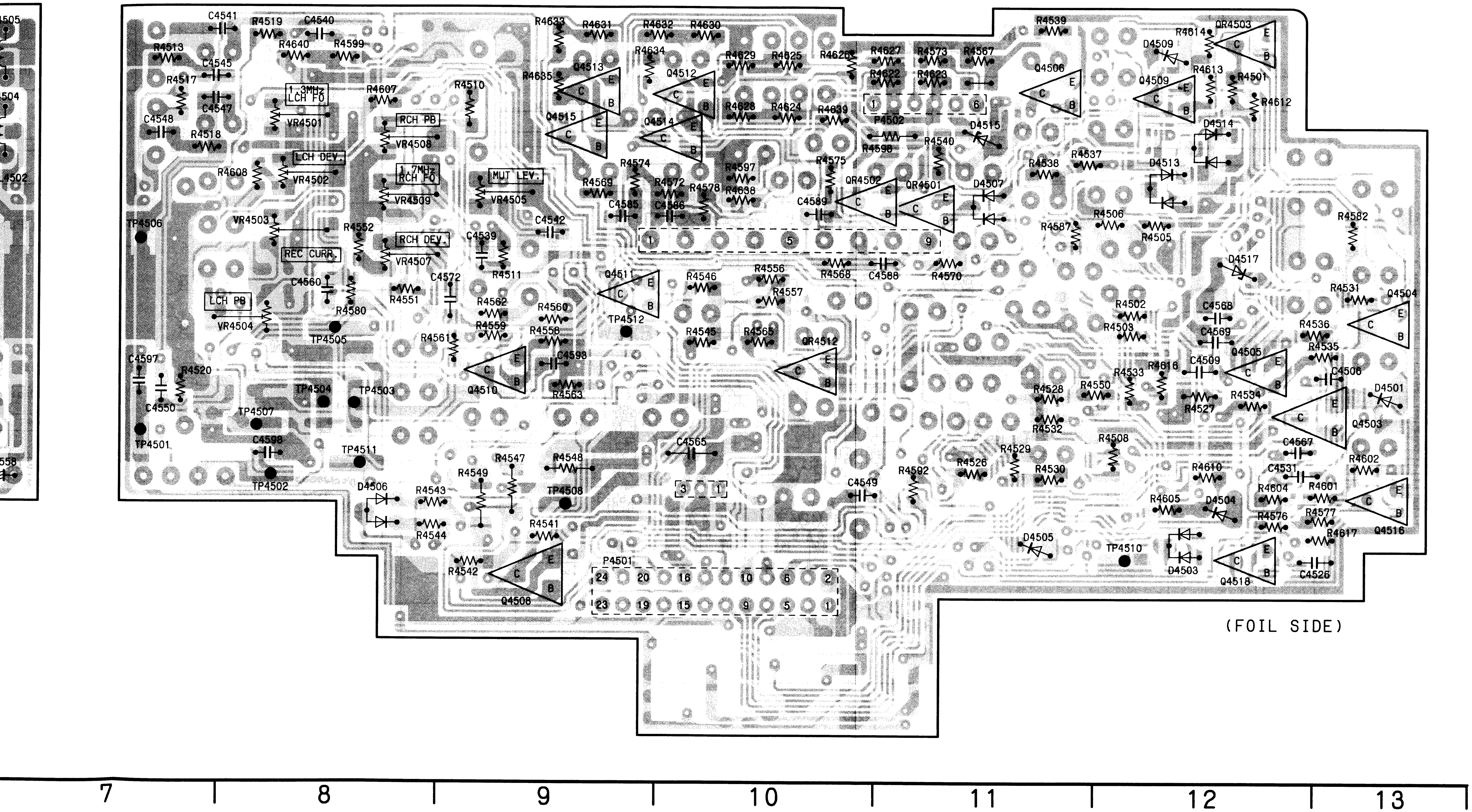

D
C
B
A
1
2
3
4
5
6
7
8
(COMPONENT SIDE)
(FOIL SIDE)
IC5501
AN3347FBP
P5501
P5502
P5503
C5536
0.01
R5514
680
R5515
680
C5526
0.01
C5519
C5530
R5519
33K
R5518
33K
D5501
MA4147A
C5506
C5508
C5502
C5504
C5501
0.01
QR5503
XN1212
Q5503
XN4504
C5534
0.033
C5535
0.033
R5538
22K
R5537
22K
R5504
10K
R5501
C5505
R5502
8200
QR5502
XN1212
Q5502
XN4504
R5531
4700
R5534
4700
R5533
4700
R5503
1K
C5509
0.01
C5503
0.01
C5507
0.01
R5521
33K
R5520
33K
R5517
10K
R5536
22K
C5531
0.01
C5533
0.033
R5513
10
R5507
680
R5508
680
C5529
0.01
C5520
0.01
C5527
0.01
C5524
1000P
C5525
0.01
C5522
0.01
C5515
1000P
C5516
0.01
C5513
0.01
C5523
1000P
R5511
2200
R5510
2200
R5509
10
R5527
2200
C5532
0.033
R5535
22K

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS CIRCUIT BOARD FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

3-34. Hi-Fi AUDIO C.B.A. (VEP04306A)


D
C
B
A
1
2
3
4
5
6
7
(COMPONENT SIDE)
R4586
D4512
R4584
C4571
R4581
C4578
R4579
QR4514
QR4513
C4570
P4502
C4600
C4602
C4603
R4636
C4604
C4544
FL4501
R4512
IC4502
C4543
L4505
C4599
C4601
C4564
R4637
L4504
C4546
C4530
R4585
R4553
C4516
C4510
C4576
C4587
R4593
C4605
C4573
C4574
C4577
C4575
C4508
C4502
D4516
R4594
C4512
C4532
R4571
C4551
FL4502
C4552
C4533
IC4503
R4583
D4502
C4514
C4507
C4503
Q4502
C4513
C4581
L4506
C4535
R4522
C4554
C4579
C4536
C4505
C4515
Q4501
C4511
C4580
C4590
C4559
R4509
R4521
C4553
R4504
C4582
C4504
C4519
IC4505
C4591
C4534
IC4504
C4527
C4517
C4520
C4522
C4556
C4537
IC4501
C4525
C4501
C4566
C4563
C4561
C4562
R4515
C4528
C4518
C4521
C4538
C4555
R4507
R4516
C4523
R4525
Q4507
R4514
R4596
R4600
C4529
Q4520
C4524
IC4506
C4557
C4558
R4523
D4511
P4501
R4606
QR4506
QR4505
R4589
R4591
R4590
R4588
QR4511
Q4521
C4583
QR4504
C4541
R4513
C4545
R4517
C4547
C4548
R4518
R4608
TP4506
VR4503
LCH PB
VR4504
C4597
R4520
C4550
TP4507
TP4501

Back Page:
Hi-Fi AUDIO HEAD AMP Section


C4541
R4519
C4540
R4513
R4640
R4599
C4545
R4517
C4547
1.3MHz LCH FO
VR4501
C4548
R4518
LCH DEV.
R4608
VR4502
R4607
RCH PB
VR4508
1.7MHz RCH FO
VR4509
R4510
MUT LEV.
VR4505
VR4503
R4552
REC CURR.
RCH DEV.
VR4507
C4542
C4539
TP4506
C4560
R4580
C4572
R4511
R4551
LCH PB
VR4504
TP4505
R4562
R4559
R4561
R4560
R4558
C4593
R4563
C4597
R4520
C4550
TP4504
TP4503
Q4510
TP4507
TP4501
C4598
TP4502
TP4511
D4506
R4543
R4544
R4549
R4547
R4548
TP4508
R4541
R4542
Q4508
P4501
24
20
16
10
6
2
23
19
15
9
5
1
R4633
R4631
R4632
R4630
R4634
R4635
Q4513
Q4512
Q4515
Q4514
R4629
R4625
R4626
R4627
R4573
R4567
R4622
R4623
R4628
R4624
R4639
P4502
6
R4598
R4540
D4515
R4574
R4572
R4578
R4597
R4638
R4569
C4585
C4586
C4589
QR4502
QR4501
R4575
D4507
5
9
Q4511
R4546
R4556
R4557
R4568
C4588
R4570
TP4512
R4545
R4565
QR4512
C4565
3
C4549
R4592
R4539
R4614
QR4503
D4509
Q4506
Q4509
R4613
R4501
R4612
D4514
R4538
R4537
D4513
R4587
R4506
R4505
R4582
D4517
R4531
Q4504
R4502
R4503
C4568
C4569
R4536
R4535
C4509
Q4505
R4616
R4533
C4506
R4528
R4550
R4527
R4534
D4501
R4532
Q4503
R4508
C4567
R4529
R4526
R4530
R4610
C4531
R4602
R4604
R4601
R4605
D4504
R4576
R4577
R4617
Q4516
D4505
TP4510
D4503
Q4518
C4526
E
B
C
(FOIL SIDE)
7
8
9
10
11
12
13

Hi-Fi AUDIO C.B.A.

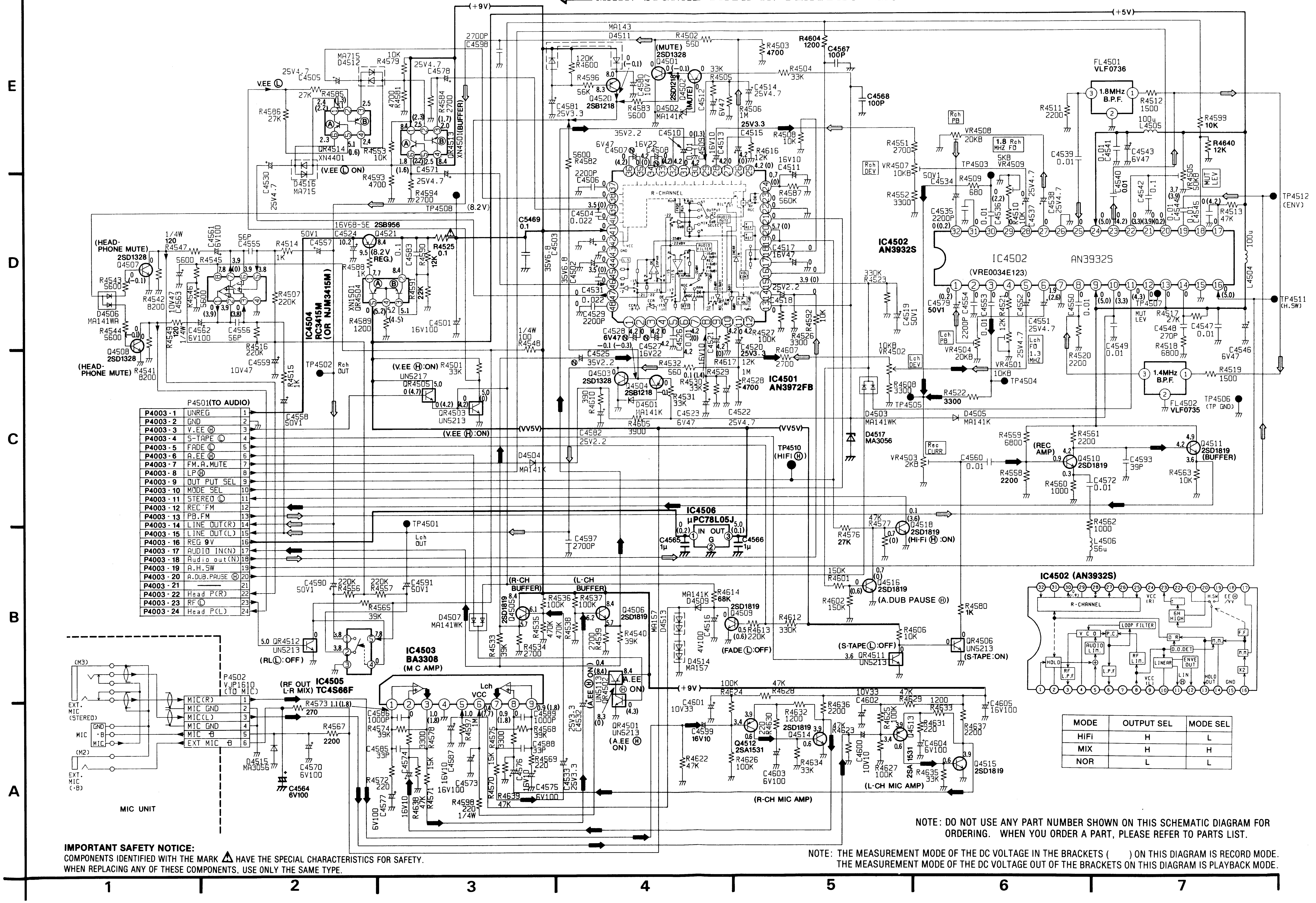
Transistor		
Q4501	C-2	Ⓒ
Q4502	C-2	Ⓒ
Q4503	B-13	Ⓕ
Q4504	C-13	Ⓕ
Q4505	C-12	Ⓕ
Q4506	D-11	Ⓕ
Q4507	B-5	Ⓒ
Q4508	A-9	Ⓕ
Q4509	D-12	Ⓕ
Q4510	B-9	Ⓕ
Q4511	C-9	Ⓕ
Q4512	D-10	Ⓕ
Q4513	D-9	Ⓕ
Q4514	D-10	Ⓕ
Q4515	D-9	Ⓕ
Q4516	B-13	Ⓕ
Q4518	A-12	Ⓕ
Q4520	B-3	Ⓒ
Q4521	A-3	Ⓒ
Transistor & Resistor		
QR4501	C-11	Ⓕ
QR4502	C-10	Ⓕ
QR4503	D-12	Ⓕ
QR4504	A-4	Ⓒ
QR4505	A-4	Ⓒ
QR4506	A-3	Ⓒ
QR4511	A-3	Ⓒ
QR4512	C-10	Ⓕ
QR4513	D-2	Ⓒ
QR4514	D-2	Ⓒ
Integrated Circuit		
IC4501	B-1	Ⓒ
IC4502	D-6	Ⓒ
IC4503	C-3	Ⓒ
IC4504	C-6	Ⓒ
IC4505	C-4	Ⓒ
IC4506	B-4	Ⓒ
Test Point		
TP4501	B-7	Ⓕ
TP4502	B-8	Ⓕ
TP4503	B-8	Ⓕ
TP4504	B-8	Ⓕ
TP4505	C-8	Ⓕ
TP4506	C-7	Ⓕ
TP4507	B-8	Ⓕ
TP4508	B-9	Ⓕ
TP4510	B-12	Ⓕ
TP4511	B-8	Ⓕ
TP4512	C-9	Ⓕ
Adjustment		
VR4501	D-8	Ⓕ
VR4502	C-8	Ⓕ
VR4503	C-8	Ⓕ
VR4504	C-8	Ⓕ
VR4505	C-9	Ⓕ
VR4507	C-8	Ⓕ
VR4508	C-8	Ⓕ
VR4509	C-8	Ⓕ
Connector		
P4501	A-4	Ⓒ
P4501	B-9	Ⓕ
P4502	D-3	Ⓒ
P4502	D-11	Ⓕ

ADDRESS INFORMATION
Ⓒ...COMPONENT SIDE
Ⓕ...FOIL SIDE

3-35. Hi-Fi AUDIO SCHEMATIC DIAGRAM

MAIN SIGNAL PATH IN REC MODE

MAIN SIGNAL PATH IN PLAYBACK MODE



E
D
C
B
A
1
2
3
4
5
6
7
(+9V)
(+5V)
(HEAD-PHONE MUTE)
2SD1328
Q4507
Q4508
D4506
MA141WA
IC4504
RC3415M
(OR NJM3415M)
XN4501
QR4501
XN4401
QR4514
TP4508
TP4502
Rch OUT
TP4501
Lch OUT
2SB956
Q4521
(8.2V REG.)
(V.EE Ⓗ:ON)
UN5217
QR4505
QR4503
UN5213
IC4501
AN3972FB
R-CHANNEL
Q4501
(MUTE)
2SD1328
Q4502
2SD1218
Q4503
Q4504
2SB1218
Q4520
D4511
MA143
D4501
MA141K
D4504
TP4510
(HIFI Ⓗ)
IC4506
μPC78L05J
IN OUT G
IC4502
AN3932S
(VRE0034E123)
FL4501
VLF0736
1.8MHz B.P.F.
FL4502
VLF0735
1.4MHz B.P.F.
TP4512 (ENV)
TP4511 (H.SW)
TP4503
TP4504
TP4505
TP4506 (TP GND)
VR4502
VR4503
VR4504
VR4507
VR4508
VR4509
D4503
MA141WK
D4505
MA141K
D4517
MA3056
Q4510
2SD1819
(REC AMP)
Q4511
2SD1819
(BUFFER)
Q4518
2SD1819
(Hi-Fi Ⓗ :ON)
Q4516
2SD1819
(A.DUB PAUSE Ⓗ)
QR4506
UN5213
(S-TAPE:ON)
QR4511
UN5213
(S-TAPE Ⓛ:OFF)
Q4509
2SD1819
(FADE Ⓛ:OFF)
D4509
MA141K
D4514
MA157
D4513
MA157
QR4502
UN5113
(A.EE Ⓗ ON)
QR4501
UN5213
(A.EE Ⓗ ON)
(R-CH BUFFER)
(L-CH BUFFER)
Q4505
2SD1819
Q4506
2SD1819
D4507
MA141WK
IC4503
BA3308
(M C AMP)
Lch
VCC
QR4512
UN5213
(RLⓁ:OFF)
(RF OUT L·R MIX)
IC4505
TC4S66F
P4501 (TO AUDIO)
P4003 · 1 UNREG
P4003 · 2 GND
P4003 · 3 V.EE Ⓗ
P4003 · 4 S-TAPE Ⓛ
P4003 · 5 FADE Ⓛ
P4003 · 6 A.EE Ⓗ
P4003 · 7 FM.A.MUTE
P4003 · 8 LP Ⓗ
P4003 · 9 OUT PUT SEL
P4003 · 10 MODE SEL
P4003 · 11 STEREO Ⓛ
P4003 · 12 REC FM
P4003 · 13 PB.FM
P4003 · 14 LINE OUT(R)
P4003 · 15 LINE OUT(L)
P4003 · 16 REG 9V
P4003 · 17 AUDIO IN(N)
P4003 · 18 Audio out(N)
P4003 · 19 A.H.SW
P4003 · 20 A.DUB.PAUSE Ⓗ
P4003 · 21 ———
P4003 · 22 Head P(R)
P4003 · 23 RF Ⓛ
P4003 · 24 Head P(L)
P4502
VJP1610
(TO MIC)
MIC(R)
MIC GND
MIC(L)
MIC GND
MIC ⊖
EXT MIC ⊖
(M3)
EXT. MIC (STEREO)
MIC
(M2)
EXT. MIC (-B)
MIC UNIT
D4515
MA3056
Q4512
2SA1531
Q4514
2SD1819
(R-CH MIC AMP)
Q4513
2SA1531
Q4515
2SD1819
(L-CH MIC AMP)
IC4502 (AN3932S)
R-CHANNEL
VCC (R)
H.SW
EE Ⓗ /VV
LOOP FILTER
V C O
P.C
AUDIO LIM.
RF LIM.
LINEAR
ENVE OUT
HOLD
RF L.P.F
L.P.F
LIN Ⓗ
HOLD OUT
GND
X2
D.O.DET
D R
SH HIGH
F.F.
m.m

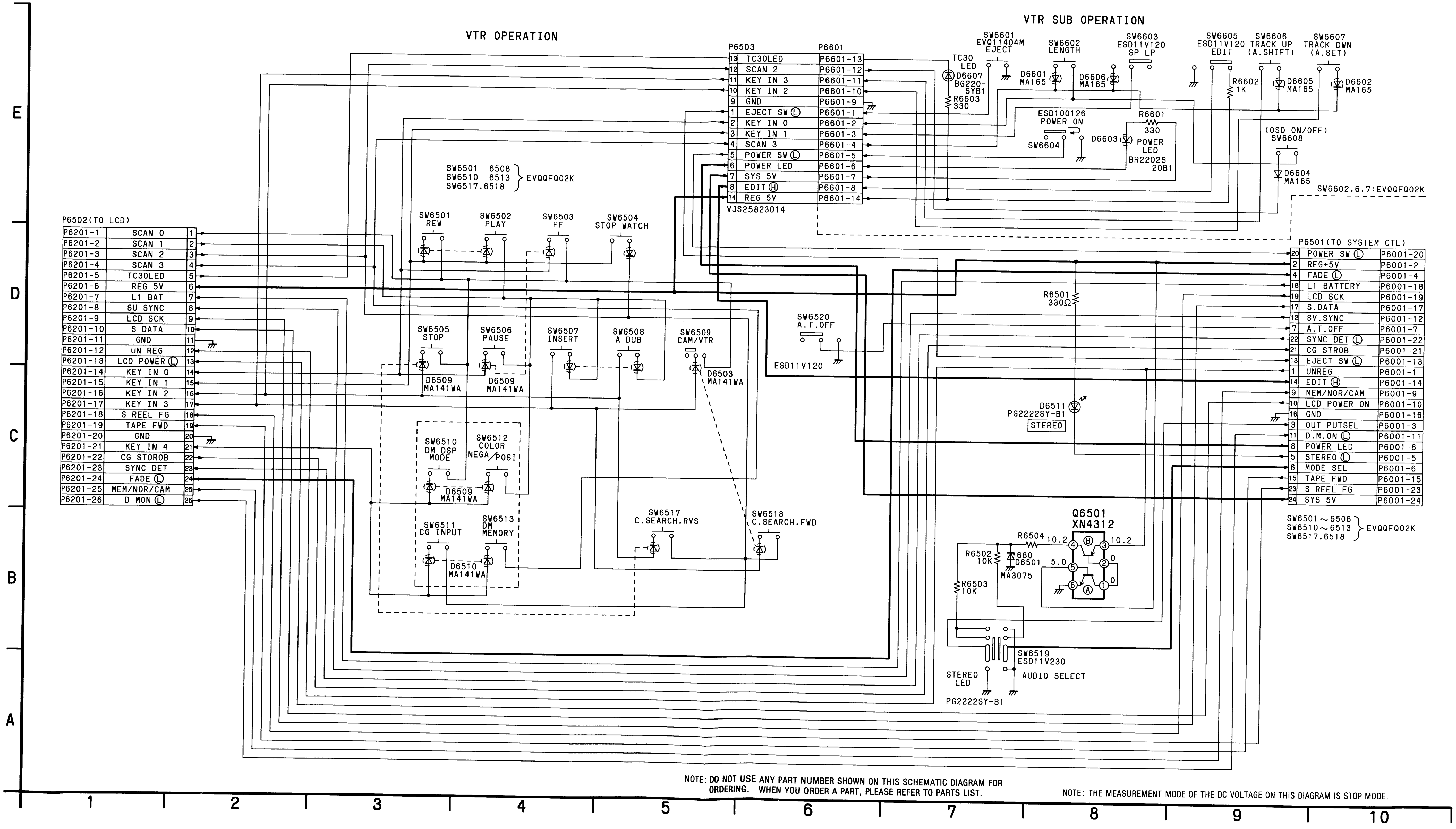
MODE	OUTPUT SEL	MODE SEL
HiFi	H	L
MIX	H	H
NOR	L	L

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE.

3-36. VTR OPERATION AND VTR SUB OPERATION SCHEMATIC DIAGRAM

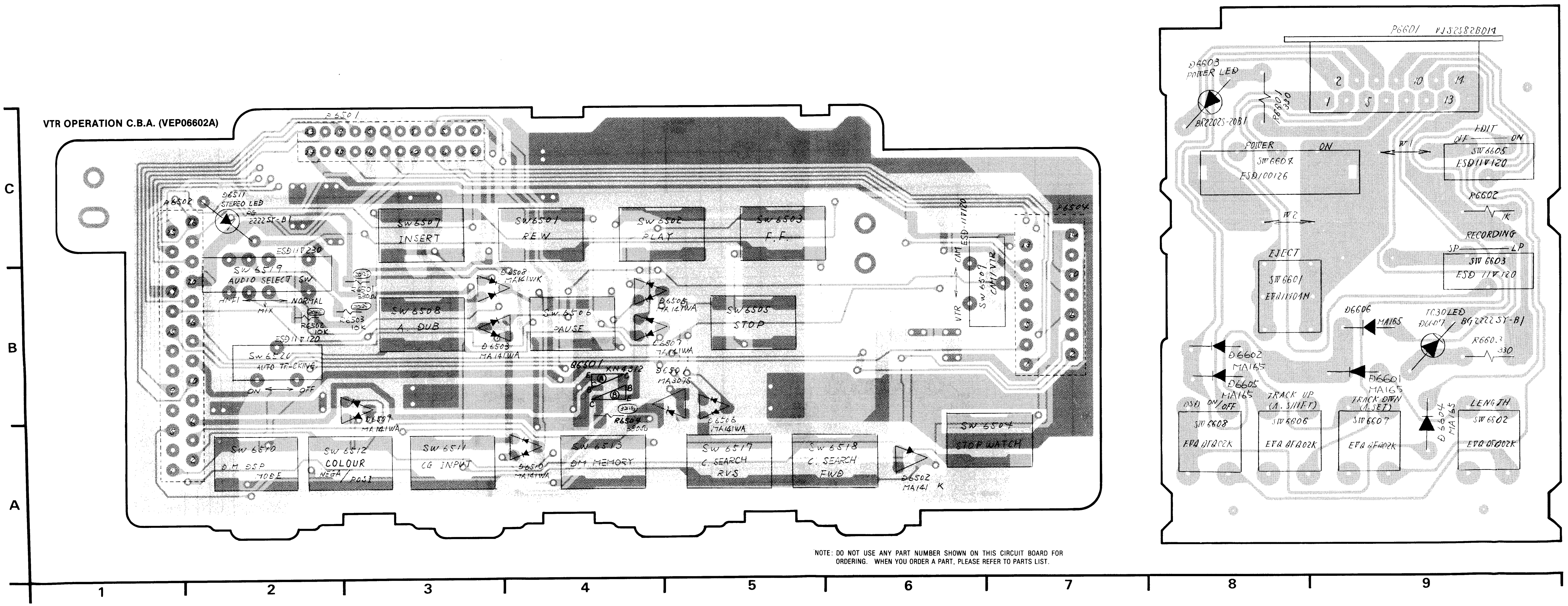

VTR OPERATION
VTR SUB OPERATION
P6502(TO LCD)
P6201-1 SCAN 0 1
P6201-2 SCAN 1 2
P6201-3 SCAN 2 3
P6201-4 SCAN 3 4
P6201-5 TC30LED 5
P6201-6 REG 5V 6
P6201-7 L1 BAT 7
P6201-8 SU SYNC 8
P6201-9 LCD SCK 9
P6201-10 S DATA 10
P6201-11 GND 11
P6201-12 UN REG 12
P6201-13 LCD POWER Ⓛ 13
P6201-14 KEY IN 0 14
P6201-15 KEY IN 1 15
P6201-16 KEY IN 2 16
P6201-17 KEY IN 3 17
P6201-18 S REEL FG 18
P6201-19 TAPE FWD 19
P6201-20 GND 20
P6201-21 KEY IN 4 21
P6201-22 CG STOROB 22
P6201-23 SYNC DET 23
P6201-24 FADE Ⓛ 24
P6201-25 MEM/NOR/CAM 25
P6201-26 D MON Ⓛ 26
P6503
P6601
13 TC30LED P6601-13
12 SCAN 2 P6601-12
11 KEY IN 3 P6601-11
10 KEY IN 2 P6601-10
9 GND P6601-9
1 EJECT SW Ⓛ P6601-1
2 KEY IN 0 P6601-2
3 KEY IN 1 P6601-3
4 SCAN 3 P6601-4
5 POWER SW Ⓛ P6601-5
6 POWER LED P6601-6
7 SYS 5V P6601-7
8 EDIT Ⓗ P6601-8
14 REG 5V P6601-14
VJS25823014
SW6501 6508
SW6510 6513
SW6517.6518
EVQQFQ02K
SW6501 REW
SW6502 PLAY
SW6503 FF
SW6504 STOP WATCH
SW6505 STOP
SW6506 PAUSE
SW6507 INSERT
SW6508 A DUB
SW6509 CAM/VTR
D6509 MA141WA
D6509 MA141WA
D6503 MA141WA
SW6510 DM DSP MODE
SW6512 COLOR NEGA/POSI
D6509 MA141WA
SW6511 CG INPUT
SW6513 DM MEMORY
D6510 MA141WA
SW6517 C.SEARCH.RVS
SW6518 C.SEARCH.FWD
SW6520 A.T.OFF
ESD11V120
SW6601 EVQ11404M EJECT
SW6602 LENGTH
SW6603 ESD11V120 SP LP
SW6605 ESD11V120 EDIT
SW6606 TRACK UP (A.SHIFT)
SW6607 TRACK DWN (A.SET)
TC30 LED
D6607 BG220-SYB1
R6603 330
D6601 MA165
D6606 MA165
R6602 1K
D6605 MA165
D6602 MA165
ESD100126 POWER ON
SW6604
D6603
R6601 330
POWER LED BR2202S-20B1
(OSD ON/OFF) SW6608
D6604 MA165
SW6602.6.7:EVQQFQ02K
P6501(TO SYSTEM CTL)
20 POWER SW Ⓛ P6001-20
2 REG+5V P6001-2
4 FADE Ⓛ P6001-4
18 L1 BATTERY P6001-18
19 LCD SCK P6001-19
17 S.DATA P6001-17
12 SV.SYNC P6001-12
7 A.T.OFF P6001-7
22 SYNC DET Ⓛ P6001-22
21 CG STROB P6001-21
13 EJECT SW Ⓛ P6001-13
1 UNREG P6001-1
14 EDIT Ⓗ P6001-14
9 MEM/NOR/CAM P6001-9
10 LCD POWER ON P6001-10
16 GND P6001-16
3 OUT PUTSEL P6001-3
11 D.M.ON Ⓛ P6001-11
8 POWER LED P6001-8
5 STEREO Ⓛ P6001-5
6 MODE SEL P6001-6
15 TAPE FWD P6001-15
23 S REEL FG P6001-23
24 SYS 5V P6001-24
R6501 330Ω
D6511 PG2222SY-B1
STEREO
SW6501～6508
SW6510～6513
SW6517.6518
EVQQFQ02K
Q6501 XN4312
R6504 10.2 10.2
R6502 10K
680
D6501 MA3075
5.0
0
0
R6503 10K
SW6519 ESD11V230
AUDIO SELECT
STEREO LED
PG2222SY-B1
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

Back Page:
Hi-Fi AUDIO Section

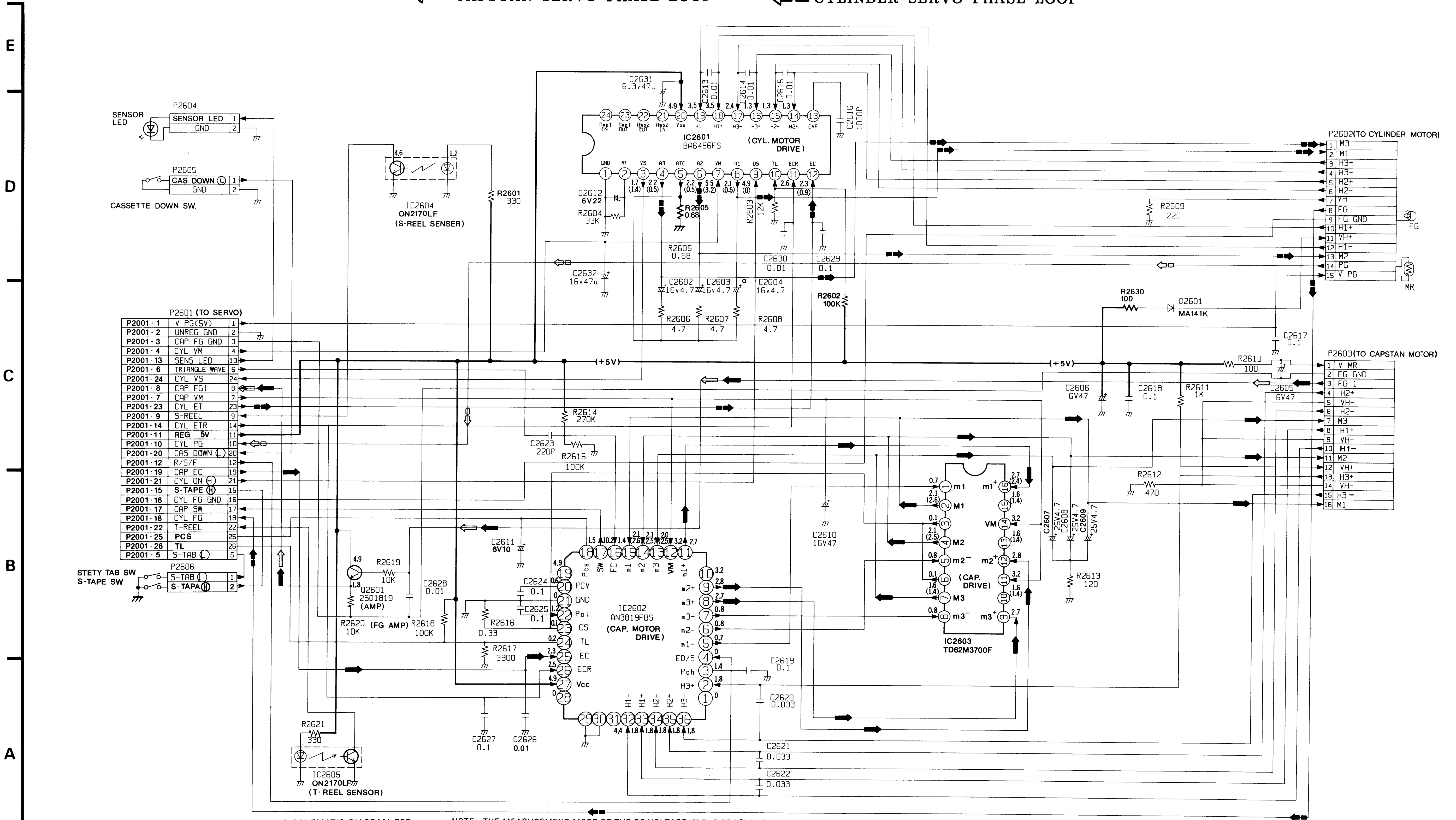
3-37. VTR OPERATION C.B.A. (VEP06602A)/VTR SUB OPERATION C.B.A. (VEP06603A)


VTR OPERATION C.B.A. (VEP06602A)
VTR SUB OPERATION C.B.A. (VEP06603A)
C
B
A
1
2
3
4
5
6
7
8
9
P6501
P6502
D6511 STEREO LED
SW 6507 INSERT
SW 6501 REW
SW 6502 PLAY
SW 6503 F.F.
SW 6519 AUDIO SELECT SW
HIFI
NORMAL
MIX
R6502 10K
R6503 10K
SW 6508 A. DUB
SW 6506 PAUSE
SW 6505 STOP
SW 6509 CAM/VTR
D6502 MA141WK
D6503 MA141WA
D6505 MA141WA
D6507 MA141WA
SW 6520 AUTO TRACKING
ON
OFF
Q6501 XN4512
D6504 MA307S
D6506 MA141WA
R6504 330Ω
D6509 MA141WA
D6510 MA141WA
SW 6510 D.M. DSP MODE
SW 6512 COLOUR NEGA/POSI
SW 6511 CG INPUT
SW 6513 DM MEMORY
SW 6517 C. SEARCH RVS
SW 6518 C. SEARCH FWD
SW 6504 STOP WATCH
D6502 MA141K
P6504
P6601
D6603 POWER LED
R6601 330
POWER
ON
SW 6604 ESD100126
EDIT
OFF
ON
SW 6605 ESD11V120
R6602 1K
RECORDING
SP
LP
SW 6603 ESD11V120
EJECT
SW 6601 EVA11104M
D6606 MA165
D6602 MA165
D6605 MA165
D6601 MA165
TC30LED D6607 BG2222SY-B1
R6603 330
DSP ON/OFF
SW 6608 EVQ QTQ02K
TRACK UP (A. SHIFT)
SW 6606 EVQ QTQ02K
TRACK DOWN (A. SET)
SW 6607 EVQ QTQ02K
D6604 MA165
LENGTH
SW 6602 EVQ QTQ02K

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS CIRCUIT BOARD FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

3-38. DRIVE SCHEMATIC DIAGRAM

CAPSTAN SERVO SPEED LOOP
CAPSTAN SERVO PHASE LOOP
CYLINDER SERVO SPEED LOOP
CYLINDER SERVO PHASE LOOP


E
D
C
B
A
SENSOR LED
P2604
SENSOR LED
GND
P2605
CAS DOWN (L)
GND
CASSETTE DOWN SW.
IC2604
ON2170LF
(S-REEL SENSER)
R2601
330
C2631
6.3v47u
C2613
0.01
C2614
0.01
C2615
0.01
C2616
1000P
IC2601
BA6456FS
(CYL. MOTOR DRIVE)
C2612
6V22
R2604
33K
R2605
0.68
R2603
12K
C2630
0.01
C2629
0.1
C2632
16v47u
C2602
16v4.7
C2603
16v4.7
C2604
16v4.7
R2602
100K
R2606
4.7
R2607
4.7
R2608
4.7
R2609
220
P2602(TO CYLINDER MOTOR)
M3
M1
H3+
H3-
H2+
H2-
VH-
FG
FG GND
H1+
VH+
H1-
M2
PG
V PG
FG
MR
R2630
100
D2601
MA141K
C2617
0.1
P2601 (TO SERVO)
P2001 · 1 V PG(5V)
P2001 · 2 UNREG GND
P2001 · 3 CAP FG GND
P2001 · 4 CYL VM
P2001 · 13 SENS LED
P2001 · 6 TRIANGLE WAVE
P2001 · 24 CYL VS
P2001 · 8 CAP FGI
P2001 · 7 CAP VM
P2001 · 23 CYL ET
P2001 · 9 S-REEL
P2001 · 14 CYL ETR
P2001 · 11 REG 5V
P2001 · 10 CYL PG
P2001 · 20 CAS DOWN (L)
P2001 · 12 R/S/F
P2001 · 19 CAP EC
P2001 · 21 CYL ON (H)
P2001 · 15 S-TAPE (H)
P2001 · 16 CYL FG GND
P2001 · 17 CAP SW
P2001 · 18 CYL FG
P2001 · 22 T-REEL
P2001 · 25 PCS
P2001 · 26 TL
P2001 · 5 S-TAB (L)
(+5V)
R2614
270K
C2623
220P
R2615
100K
R2610
100
C2605
6V47
C2606
6V47
C2618
0.1
R2611
1K
P2603(TO CAPSTAN MOTOR)
V MR
FG GND
FG 1
H2+
VH-
H2-
M3
H1+
VH-
H1-
M2
VH+
H3+
VH-
H3-
M1
R2612
470
STETY TAB SW
S-TAPE SW
P2606
S-TAB (L)
S-TAPA (H)
Q2601
2SD1819
(AMP)
R2619
10K
C2628
0.01
R2620
10K
(FG AMP)
R2618
100K
C2611
6V10
C2624
0.1
C2625
0.1
R2616
0.33
R2617
3900
IC2602
AN3819FBS
(CAP. MOTOR DRIVE)
C2619
0.1
C2620
0.033
C2621
0.033
C2622
0.033
C2627
0.1
C2626
0.01
C2610
16V47
IC2603
TD62M3700F
(CAP. DRIVE)
C2607
25V4.7
C2608
25V4.7
C2609
25V4.7
R2613
120
R2621
330
IC2605
ON2170LF
(T-REEL SENSOR)

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

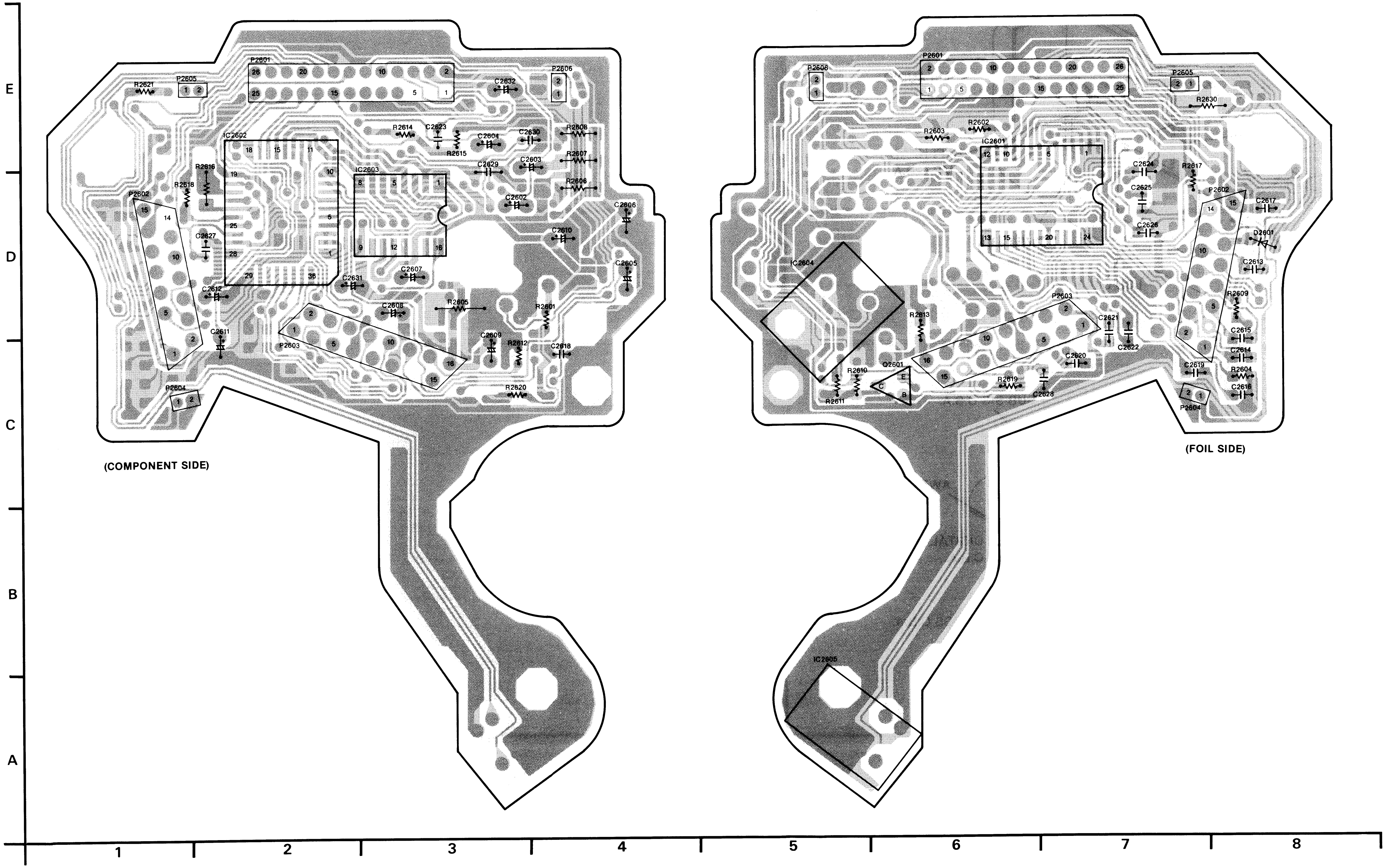
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL.

THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.

1 2 3 4 5 6 7 8

Back Page:
VTR OPERATION,
VTR SUB OPERATION Section

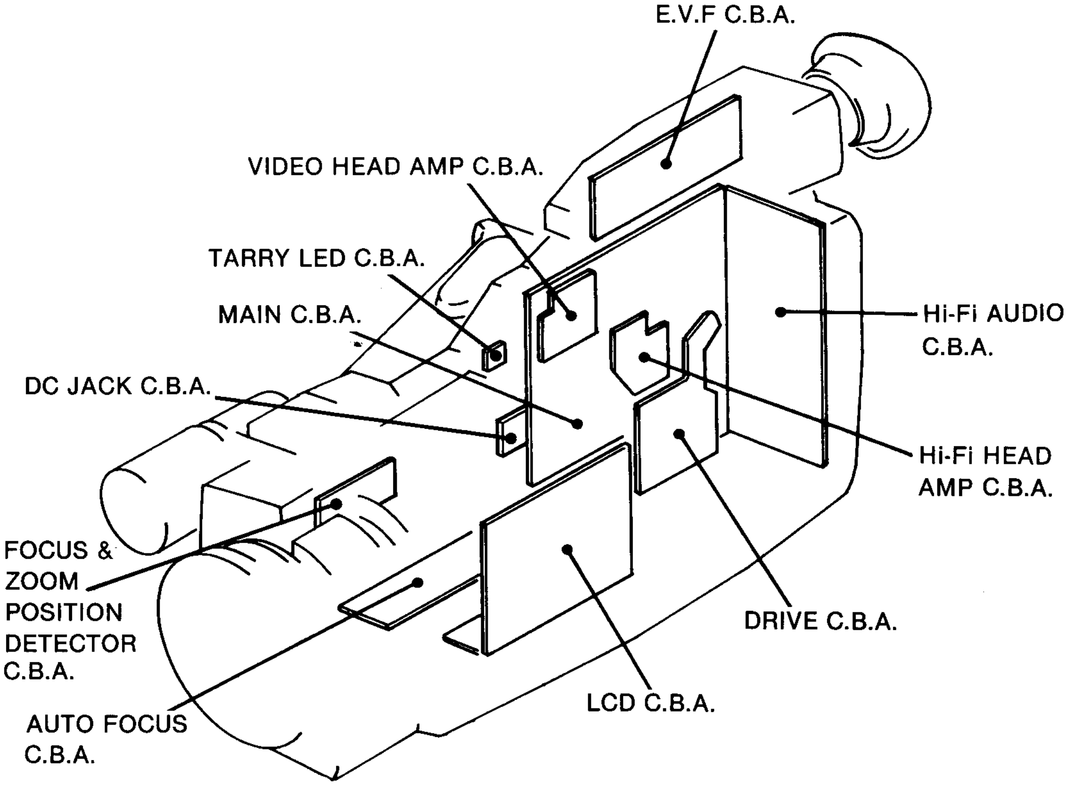
3-39. DRIVE C.B.A. (VEP02349A)

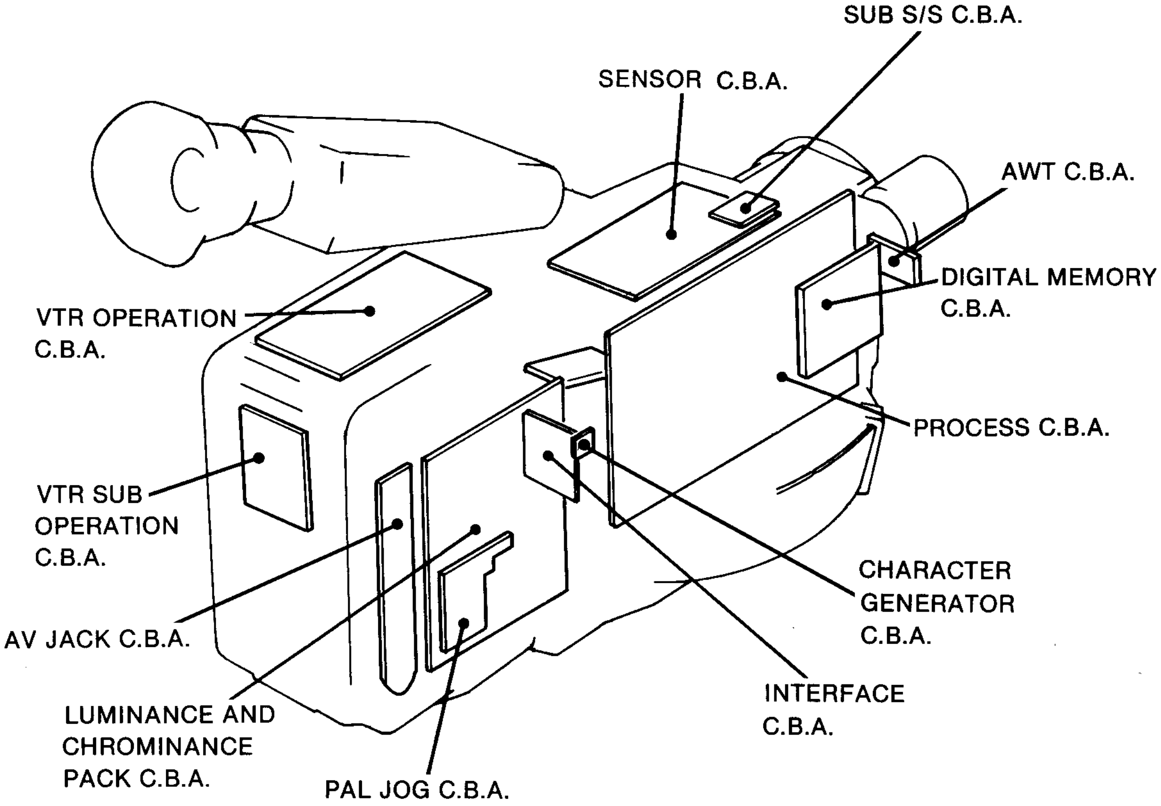

E
D
C
B
A
1
2
3
4
5
6
7
8
(COMPONENT SIDE)
(FOIL SIDE)
P2601
P2602
P2603
P2604
P2605
P2606
IC2601
IC2602
IC2603
IC2604
IC2605
Q2601
D2601
R2601
R2602
R2603
R2604
R2605
R2606
R2607
R2608
R2609
R2610
R2611
R2612
R2613
R2614
R2615
R2616
R2617
R2618
R2619
R2620
R2621
R2630
C2602
C2603
C2604
C2605
C2606
C2607
C2608
C2609
C2610
C2611
C2612
C2613
C2614
C2615
C2616
C2617
C2618
C2619
C2620
C2621
C2622
C2623
C2624
C2625
C2626
C2627
C2628
C2629
C2630
C2631
C2632
E
C
B

DRIVE C.B.A.	
Transistor	
Q2601	C-6 Ⓕ
Integrated Circuit	
IC2601	E-6 Ⓕ
IC2602	E-2 Ⓒ
IC2603	D-3 Ⓒ
IC2604	D-5 Ⓕ
IC2605	A-5 Ⓕ
Connectors	
P2601	E-2 Ⓒ
P2601	E-6 Ⓕ
P2602	D-1 Ⓒ
P2602	D-8 Ⓕ
P2603	C-2 Ⓒ
P2603	D-7 Ⓕ
P2604	C-1 Ⓒ
P2604	C-7 Ⓕ
P2605	E-1 Ⓒ
P2605	E-7 Ⓕ
P2606	E-4 Ⓒ
P2606	E-5 Ⓕ

ADDRESS INFORMATION
Ⓒ...COMPONENT SIDE
Ⓕ...FOIL SIDE

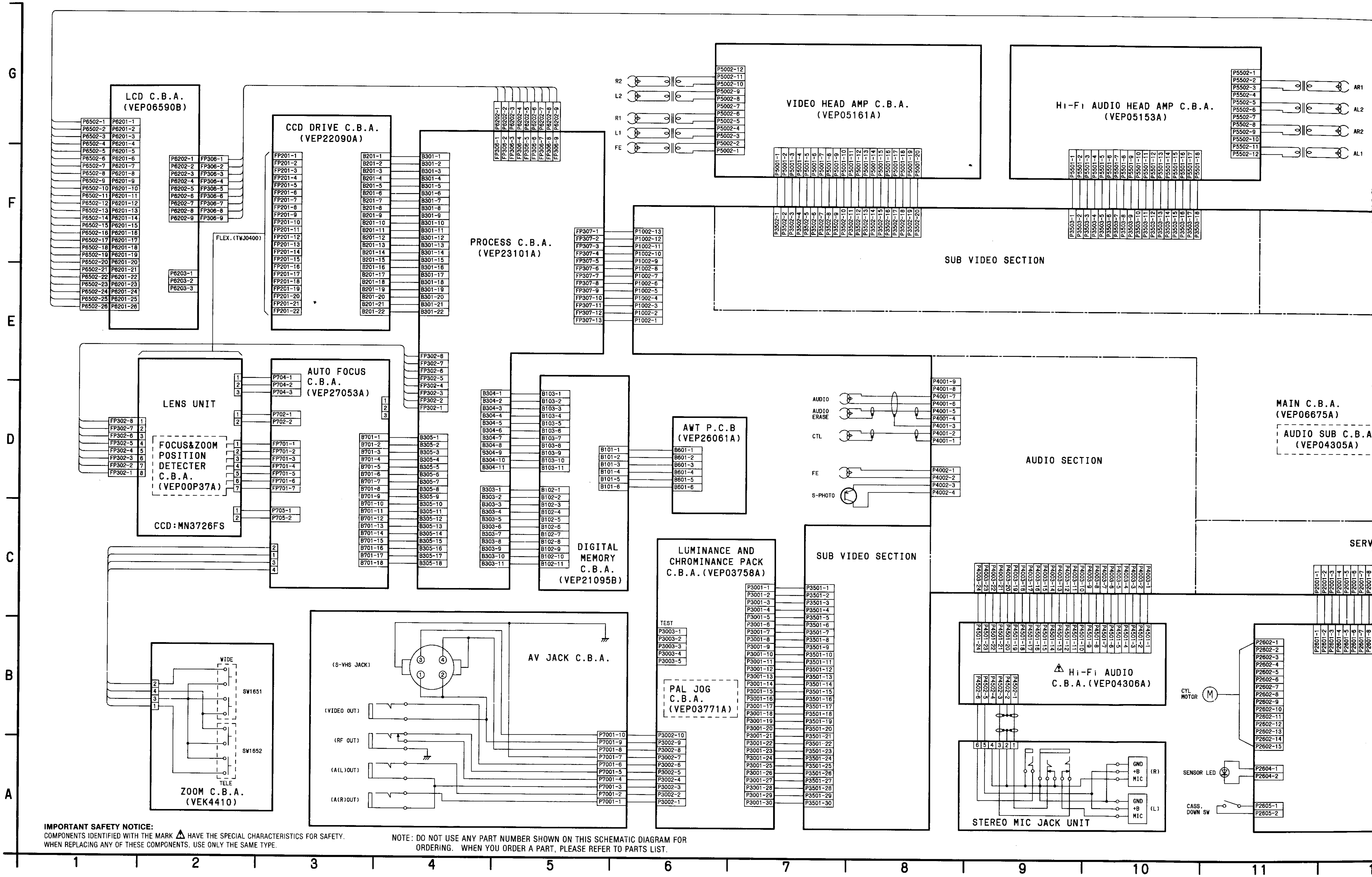
3-40. CIRCUIT BOARD LAYOUT


E.V.F C.B.A.
VIDEO HEAD AMP C.B.A.
TARRY LED C.B.A.
MAIN C.B.A.
DC JACK C.B.A.
Hi-Fi AUDIO C.B.A.
Hi-Fi HEAD AMP C.B.A.
FOCUS & ZOOM POSITION DETECTOR C.B.A.
AUTO FOCUS C.B.A.
DRIVE C.B.A.
LCD C.B.A.


SUB S/S C.B.A.
SENSOR C.B.A.
AWT C.B.A.
DIGITAL MEMORY C.B.A.
VTR OPERATION C.B.A.
PROCESS C.B.A.
VTR SUB OPERATION C.B.A.
CHARACTER GENERATOR C.B.A.
AV JACK C.B.A.
INTERFACE C.B.A.
LUMINANCE AND CHROMINANCE PACK C.B.A.
PAL JOG C.B.A.

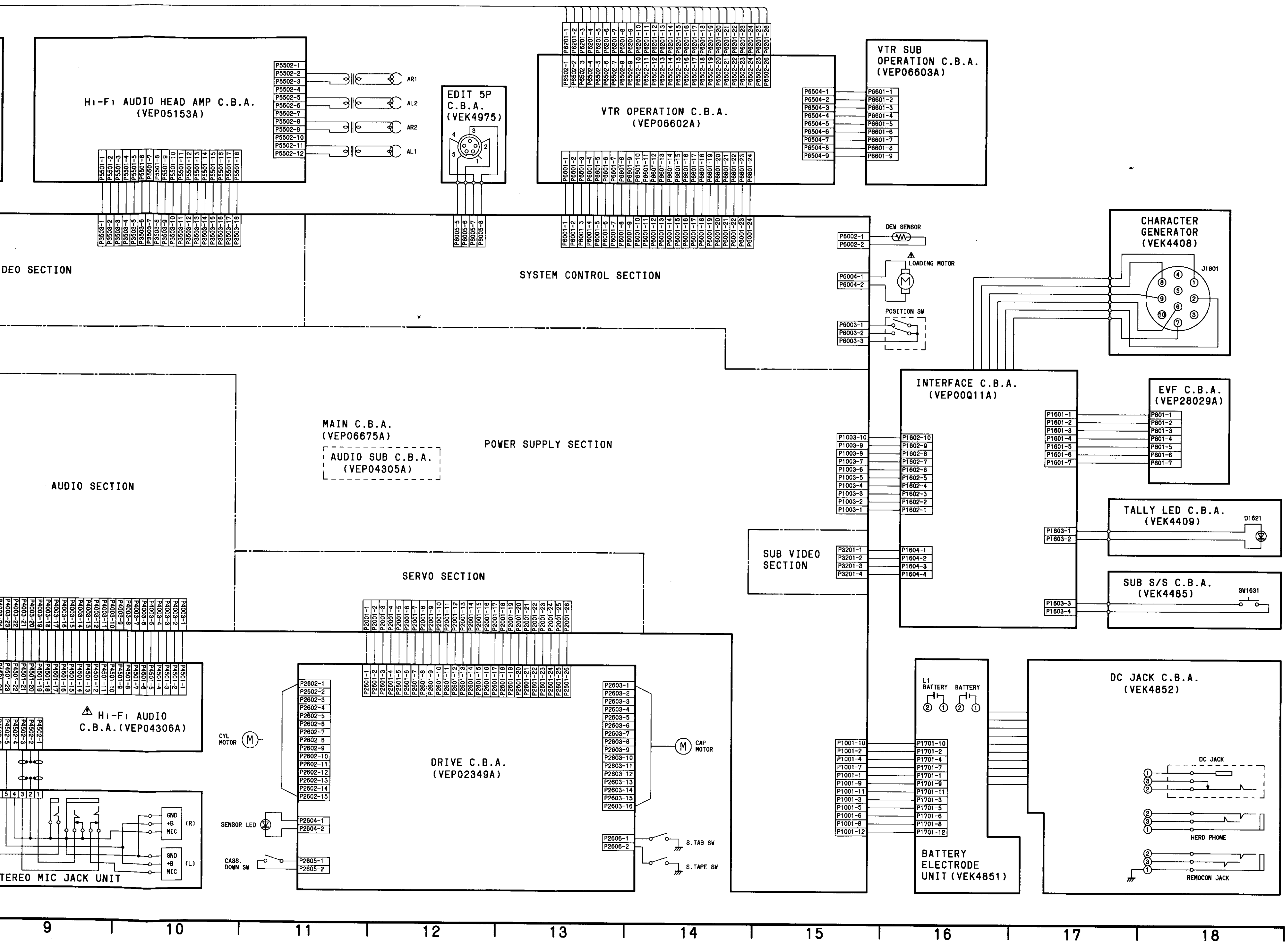
Back Page:
DRIVE Section

3-41. INTERCONNECTION SCHEMATIC DIAGRAM

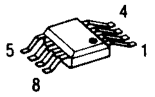

LCD C.B.A. (VEP06590B)
CCD DRIVE C.B.A. (VEP22090A)
PROCESS C.B.A. (VEP23101A)
VIDEO HEAD AMP C.B.A. (VEP05161A)
Hi-Fi AUDIO HEAD AMP C.B.A. (VEP05153A)
SUB VIDEO SECTION
FLEX.(TWJ0400)
LENS UNIT
FOCUS&ZOOM POSITION DETECTER C.B.A. (VEP00P37A)
CCD:MN3726FS
AUTO FOCUS C.B.A. (VEP27053A)
DIGITAL MEMORY C.B.A. (VEP21095B)
AWT P.C.B (VEP26061A)
AUDIO SECTION
MAIN C.B.A. (VEP06675A)
AUDIO SUB C.B.A (VEP04305A)
SERV
ZOOM C.B.A. (VEK4410)
WIDE
TELE
SW1651
SW1652
AV JACK C.B.A.
(S-VHS JACK)
(VIDEO OUT)
(RF OUT)
(A(L)OUT)
(A(R)OUT)
LUMINANCE AND CHROMINANCE PACK C.B.A.(VEP03758A)
TEST
PAL JOG C.B.A. (VEP03771A)
SUB VIDEO SECTION
Hi-Fi AUDIO C.B.A.(VEP04306A)
STEREO MIC JACK UNIT
GND +B MIC (R)
GND +B MIC (L)
CYL MOTOR
SENSOR LED
CASS. DOWN SW
R2
L2
R1
L1
FE
AR1
AL2
AR2
AL1
AUDIO
AUDIO ERASE
CTL
FE
S-PHOTO
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

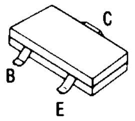
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.


Hi-Fi AUDIO HEAD AMP C.B.A. (VEP05153A)
AR1
AL2
AR2
AL1
EDIT 5P C.B.A. (VEK4975)
VTR OPERATION C.B.A. (VEP06602A)
VTR SUB OPERATION C.B.A. (VEP06603A)
DEO SECTION
SYSTEM CONTROL SECTION
DEW SENSOR
LOADING MOTOR
POSITION SW
CHARACTER GENERATOR (VEK4408)
J1601
MAIN C.B.A. (VEP06675A)
AUDIO SUB C.B.A. (VEP04305A)
POWER SUPPLY SECTION
AUDIO SECTION
INTERFACE C.B.A. (VEP00Q11A)
EVF C.B.A. (VEP28029A)
TALLY LED C.B.A. (VEK4409)
D1621
SUB VIDEO SECTION
SUB S/S C.B.A. (VEK4485)
SW1631
SERVO SECTION
Hi-Fi AUDIO C.B.A. (VEP04306A)
TEREO MIC JACK UNIT
GND
+B
MIC
(R)
(L)
CYL MOTOR
SENSOR LED
CASS. DOWN SW
DRIVE C.B.A. (VEP02349A)
CAP MOTOR
S.TAB SW
S.TAPE SW
L1 BATTERY
BATTERY
BATTERY ELECTRODE UNIT (VEK4851)
DC JACK C.B.A. (VEK4852)
DC JACK
HEAD PHONE
REMOCON JACK
9
10
11
12
13
14
15
16
17
18

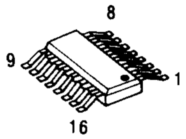
3-42. ICs & TRs INFORMATION



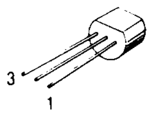
XRA10358F
AN6308S
LM358
MN67607PAS
AN3396S
µPC358G2
µPC1513G
NJM3415M
MST001MS
MSM6989MS
LM2903M
BA7131F
RC4558M
RC3415M
TL8809F
µPC311G2



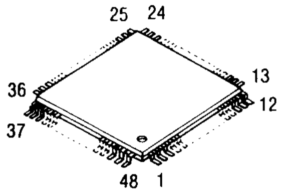
2SA1531
2SA1255
2SA1532
2SB970
2SB970X
2SB1218
2SB1219
2SC3138
2SC3931
2SD968A
2SD1328
2SD1819
2SD1820
2SB956X
2SC3938
2SD1483
2SC1621



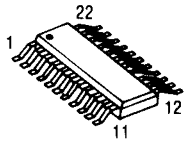
µPD4094BG
AN2012S
TL1453CNS-L
MC14053
MN3828S
M52065FP
AN3580SB
AN6664S
TDM3700TP1
MC14052BF
AN2514S



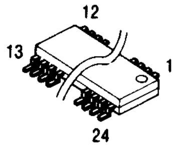
µPC78L05


25 24
36
13
12
37
48 1

AN2254FAP
AN2584NFAP
AN3972FB
AN3347FBP



AN3592S



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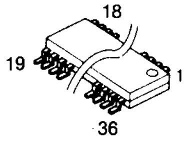
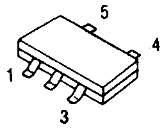
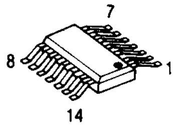
AN2354S



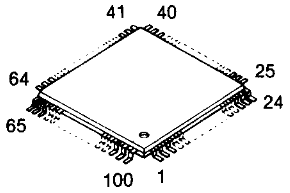
µPC2309



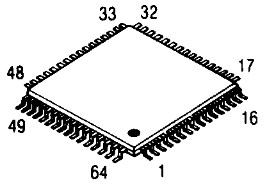
TC4S66FTE85L



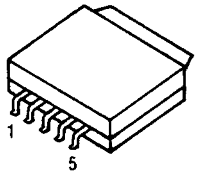
µPD4066BS
LM324ML


41 40
64
25
24
65
100 1

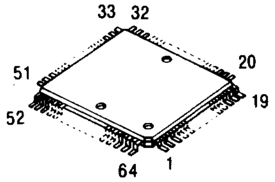
µPD75308G


33 32
48
17
49
16
64 1

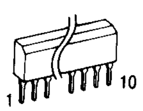
MN5127
MN15867VFK4



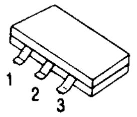
AN6545SP


33 32
51
20
19
52
64 1

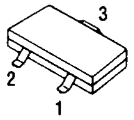
µPD75108G



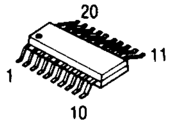
M54543ASL



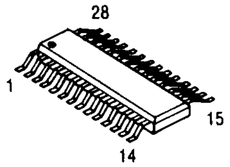
S81250HGRD



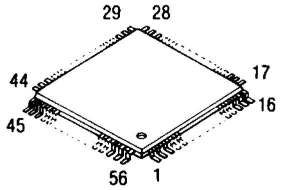
MN12821Q
S8054ALB
S8052ANB



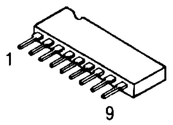
MN3107CS



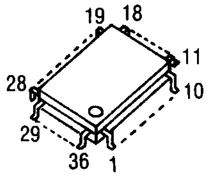
MN1551VFM
µPD43256AGU


29 28
44
17
45
16
56 1

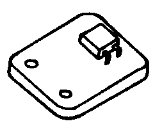
M52059AFP



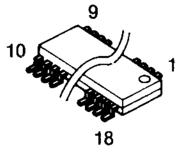
BA3308


19 18
11
28
10
29
36 1

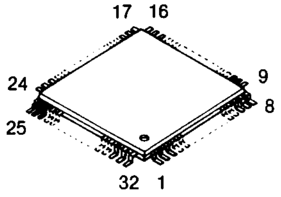
AN3819FBS



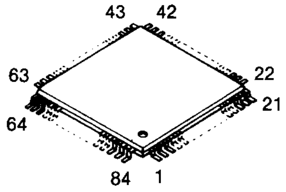
ON2170LF



AN3292NS

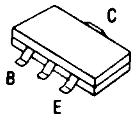

17 16
24
9
8
25
32 1

MN67606AP


43 42
63
22
21
64
84 1

MN67512VXF

Back Page:
INTERCONNECTION Section



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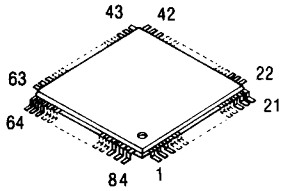
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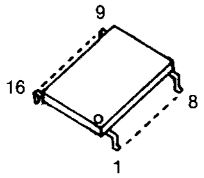

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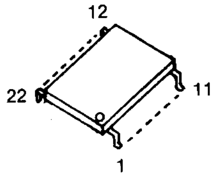

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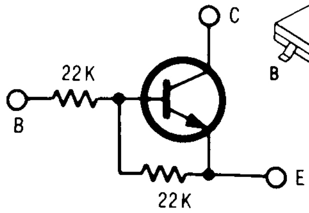
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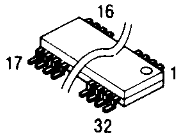

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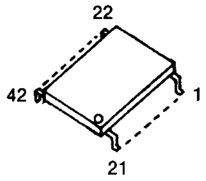

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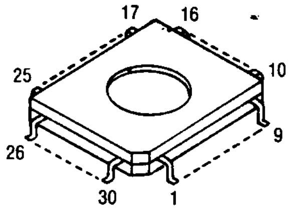
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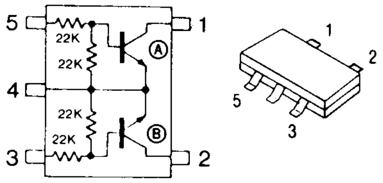
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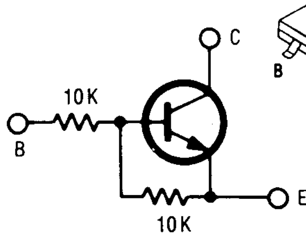
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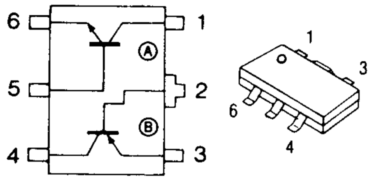
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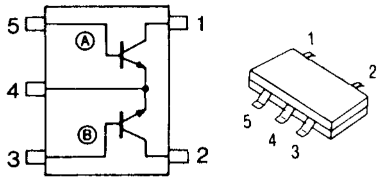
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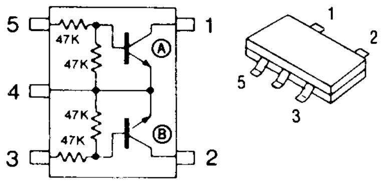
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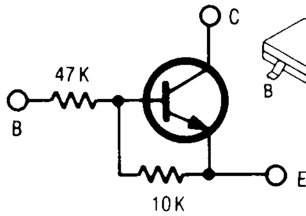
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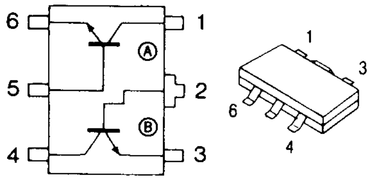
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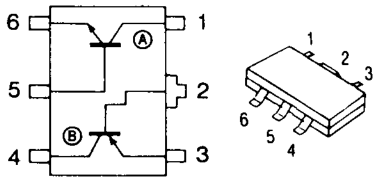
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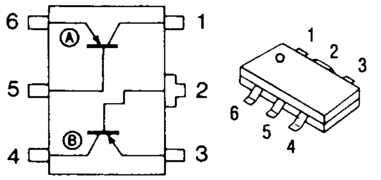
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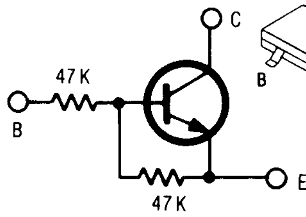
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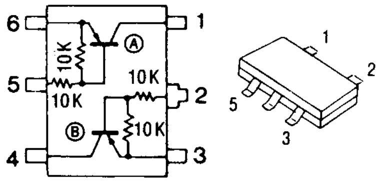
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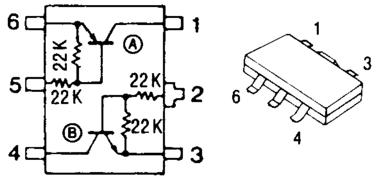
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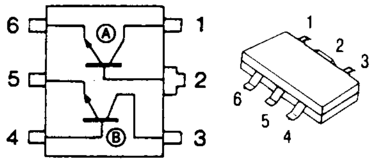
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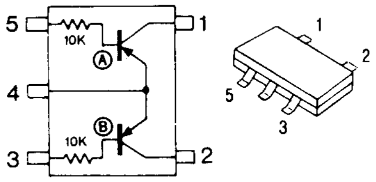
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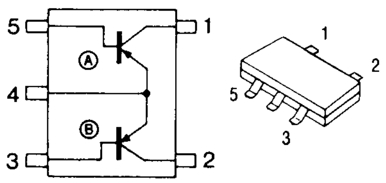
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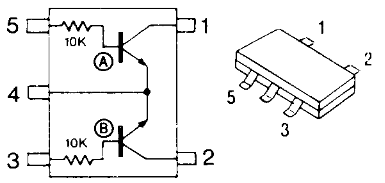
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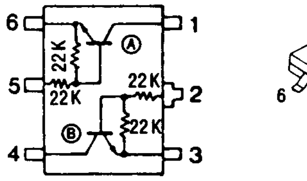
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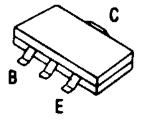

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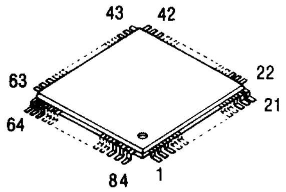
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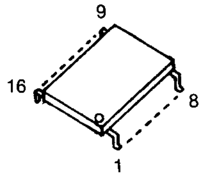

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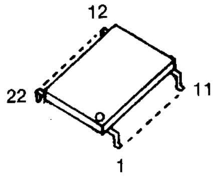

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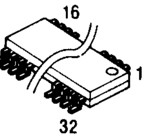

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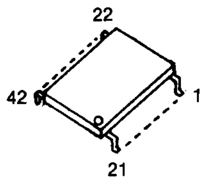

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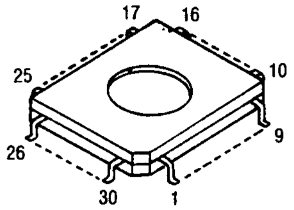
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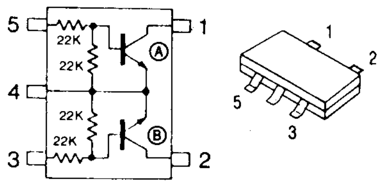
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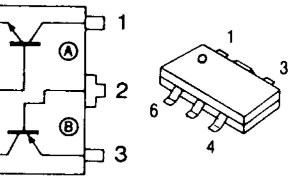

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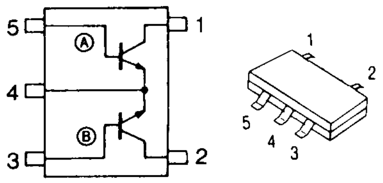

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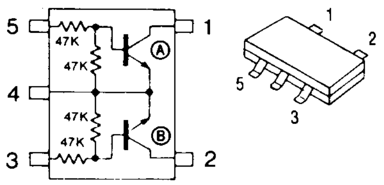
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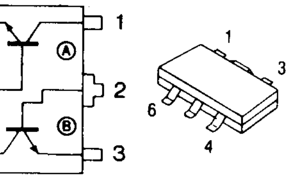

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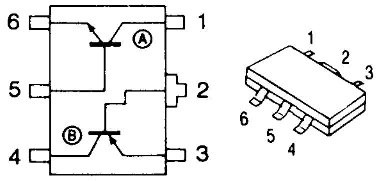

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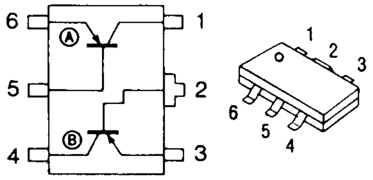

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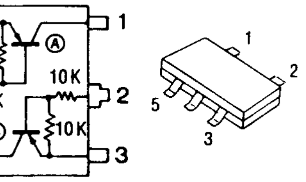
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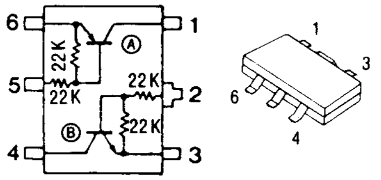
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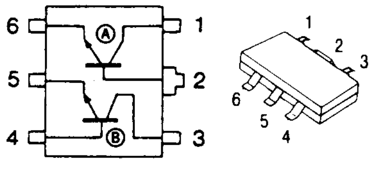

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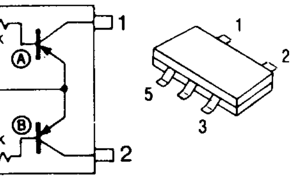

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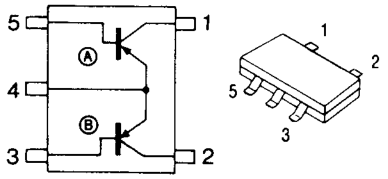

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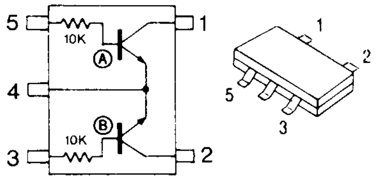
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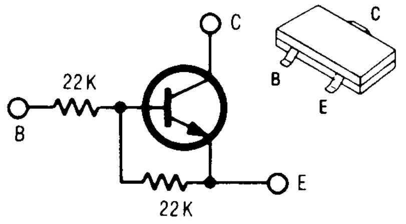
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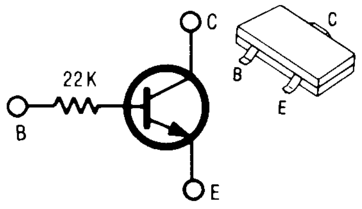

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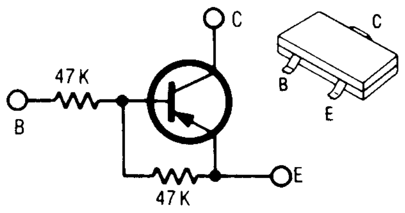
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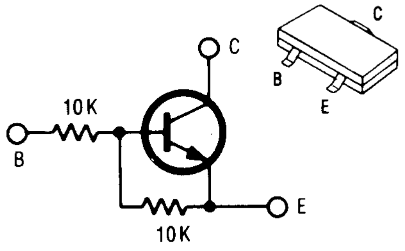
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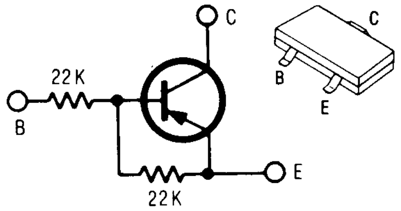
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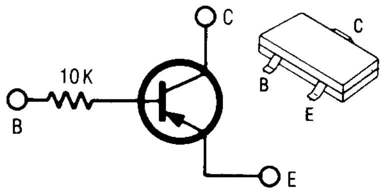

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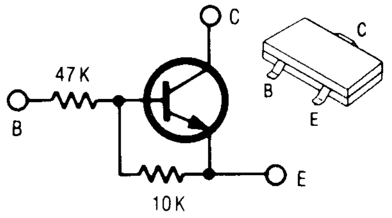
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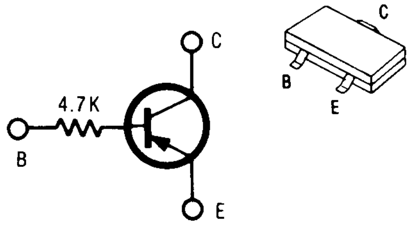

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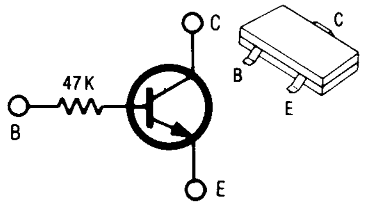

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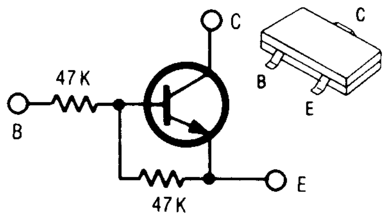
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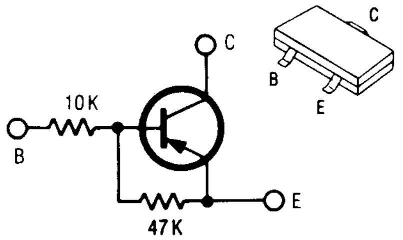
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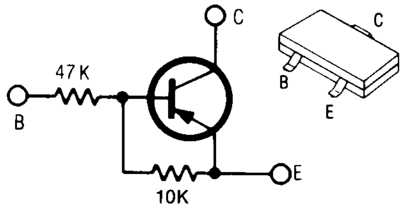
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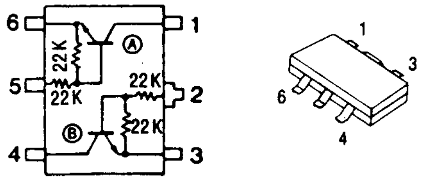
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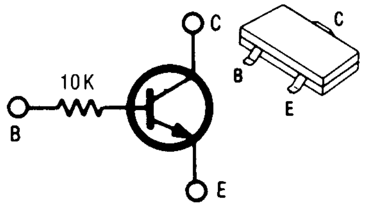

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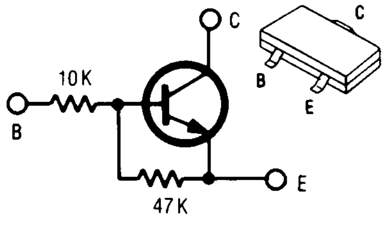
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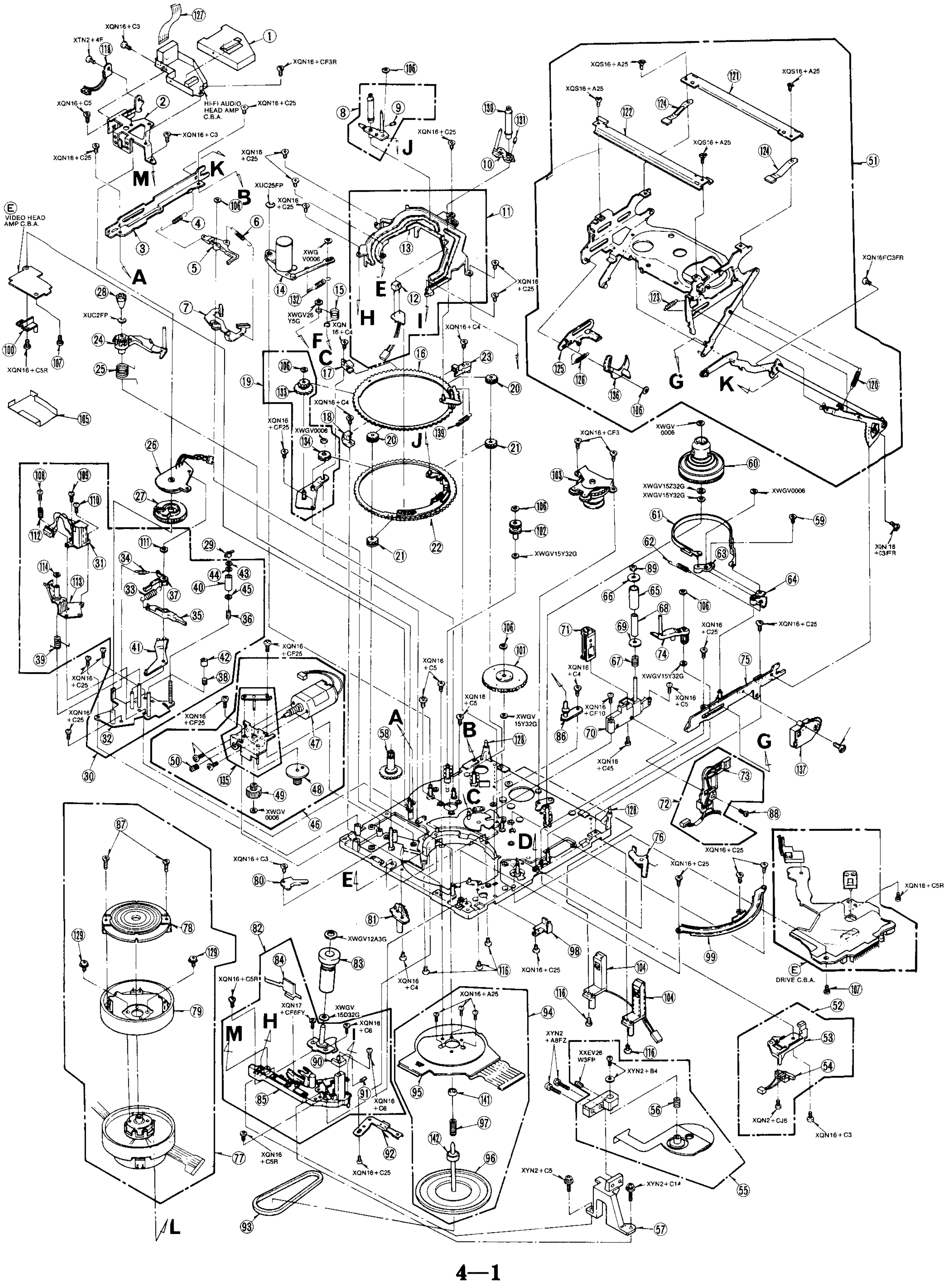
UN5214

SECTION 4
EXPLODED VIEWS & PARTS LIST

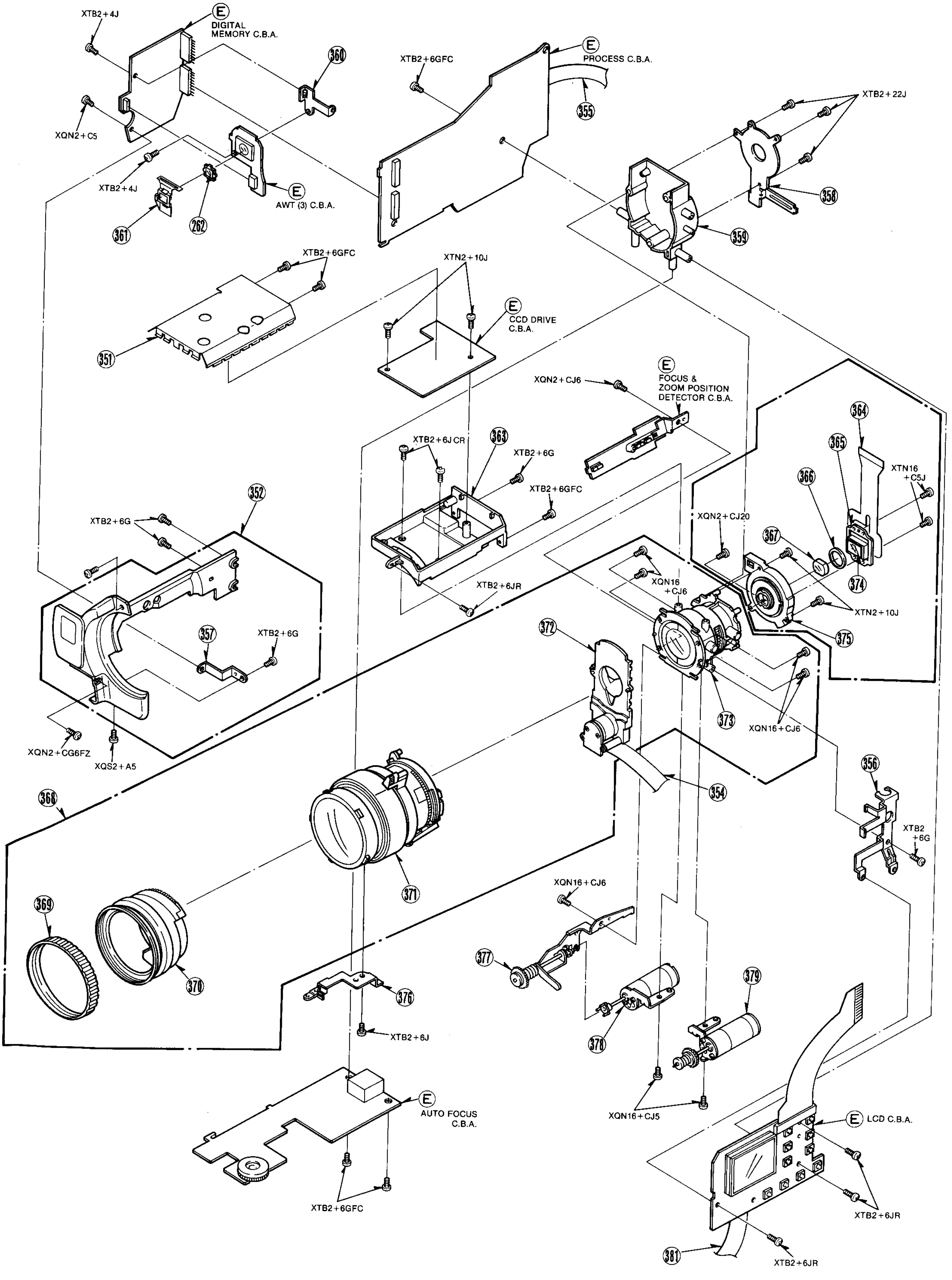
4-1. EXPLODED VIEWS

❶ VTR MECHANISM SECTION

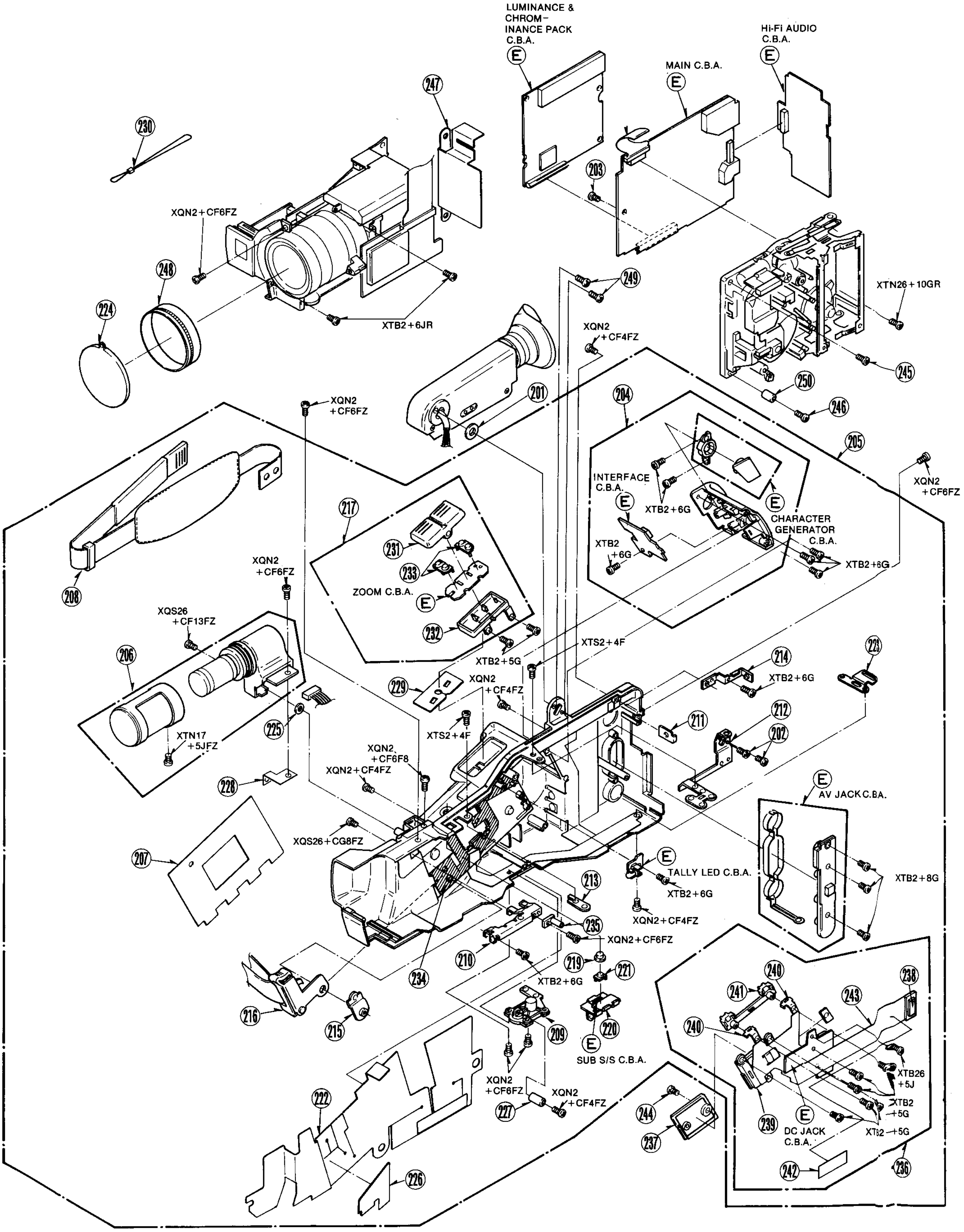


(127)
①
XQN16+C3
XTN2+4F
(118)
XQN16+CF3R
XQN16+C5
②
HI-FI AUDIO HEAD AMP C.B.A.
XQN16+C25
XQN16+C3
XQN16+C25
M
K
B
③
④
⑤
⑥
⑦
A
Ⓔ VIDEO HEAD AMP C.B.A.
(100)
(107)
XQN16+C5R
(105)
㉘
XUC2FP
㉔
㉕
(106)
⑧
⑨
J
XQN16+C25
(130)
(131)
⑩
XQN16 +C25
XUC25FP
XQN16 +C25
⑪
⑬
XWG V0006
⑭
(132)
⑮
XWGV26 Y5G
XQN 16+C4
F
C
E
⑫
H
I
XQN16 +C25
XQN16+C4
⑯
⑰
㉓
⑲
(106)
(133)
XQN16+C4
⑱
⑳
XQN16 +CF25
XWGV0006
(134)
(139)
㉑
㉒
XQS16+A25
XQS16+A25
(121)
XQS16+A25
(122)
(124)
XQS16+A25
(124)
(51)
XQN16FC3FR
(123)
(125)
(126)
(136)
(106)
G
K
(120)
XWGV 0006
(60)
XWGV15Z32G
XWGV15Y32G
XWGV0006
(61)
(59)
(62)
(63)
(64)
XQN 16 +C3FR
XQN16+CF3
(103)
(106)
(102)
XWGV15Y32G
㉖
㉗
(108)
(109)
(110)
(112)
㉛
(114)
(113)
㊴
(111)
㉙
㉞
㉝
㊲
㊸
㊹
㊵
㊺
㉟
㊱
㊶
㊷
㊳
XQN16 +C25
XQN16 +C25
㉜
㉚
XQN16 +CF25
XQN16 +CF25
㊼
㊿
(135)
㊽
㊾
XWGV 0006
㊻
(89)
(66)
(65)
(68)
(69)
(106)
(71)
(74)
(67)
XWGV15Y32G
XQN16 +C4
XQN16 +CF10
(86)
(70)
XQN16 +C45
XQN16 +C5
XQN16 +C25
XQN16+C25
(75)
(137)
G
(106)
(101)
XWGV 15Y32G
XQN16 +C5
XQN16 +C5
A
(58)
B
(128)
C
D
(128)
(73)
(72)
(88)
XQN16+C25
(76)
XQN16+C25
(99)
XQN16+C5R
Ⓔ DRIVE C.B.A.
(107)
(87)
(78)
(129)
(129)
(79)
(77)
L
XQN16+C3
(80)
E
(81)
(82)
(84)
XWGV12A3G
(83)
XQN16+C5R
XQN17 +CF6FY
XWGV 15D32G
XQN16 +C6
M
H
I
(90)
(85)
(91)
XQN16 +C6
(92)
XQN16 +C5R
XQN16+C25
(93)
XQN16 +C4
(116)
(98)
XQN16+C25
XQN16+A25
(94)
(95)
(141)
(97)
(142)
(96)
(116)
(104)
(104)
(116)
XYN2 +A8FZ
XXEV26 W3FP
XYN2+B4
(56)
XYN2+C5
XYN2+C14
(57)
(55)
(52)
(53)
(54)
XQN2+CJ6
XQN16+C3

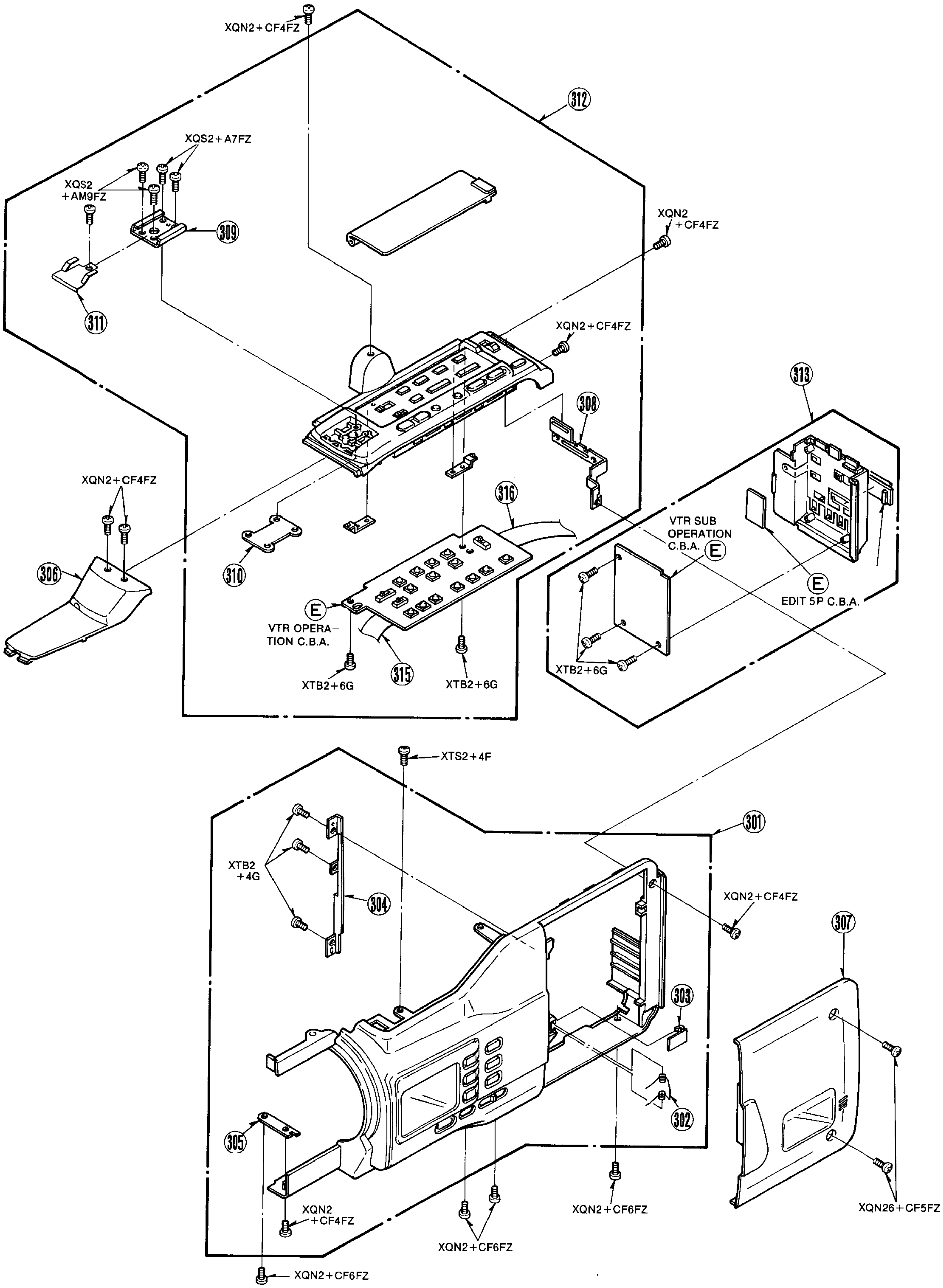
❷ CAMERA LENS SECTION


XTB2+4J
E
DIGITAL MEMORY C.B.A.
360
XQN2+C5
XTB2+4J
E
AWT (3) C.B.A.
262
361
XTB2+6GFC
E
PROCESS C.B.A.
355
XTB2+22J
358
359
XTB2+6GFC
351
XTN2+10J
E
CCD DRIVE C.B.A.
XQN2+CJ6
E
FOCUS & ZOOM POSITION DETECTOR C.B.A.
364
365
XTN16 +C5J
366
XTB2+6J CR
363
XTB2+6G
XTB2+6GFC
352
XTB2+6G
XQN2+CJ20
367
XQN16 +CJ6
374
XTN2+10J
375
XTB2+6JR
357
XTB2+6G
372
373
XQN16+CJ6
XQN2+CG6FZ
XQS2+A5
354
356
XTB2 +6G
368
371
XQN16+CJ6
369
370
377
376
378
379
XTB2+6J
E
AUTO FOCUS C.B.A.
XQN16+CJ5
E
LCD C.B.A.
XTB2+6JR
XTB2+6GFC
381
XTB2+6JR

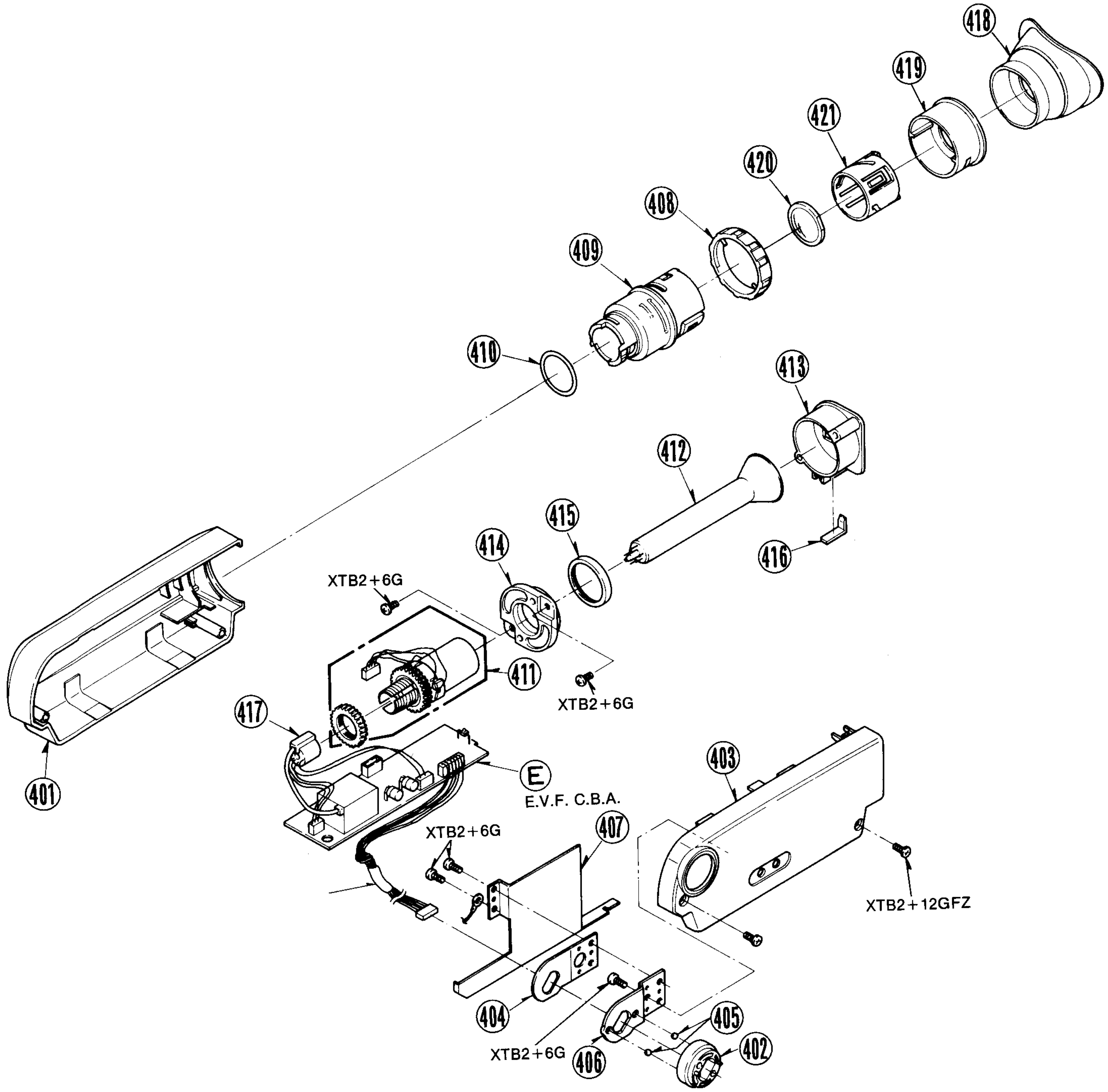
❸ CHASSIS & FRAME SECTION (1)


LUMINANCE &
CHROM-
INANCE PACK
C.B.A.
E
MAIN C.B.A.
E
Hi-Fi AUDIO
C.B.A.
E
247
230
203
XQN2+CF6FZ
248
224
XTB2+6JR
249
XTN26+10GR
XQN2
+CF4FZ
245
250
246
201
XQN2
+CF6FZ
204
205
XQN2
+CF6FZ
INTERFACE
C.B.A.
E
XTB2+6G
E
CHARACTER
GENERATOR
C.B.A.
XTB2
+6G
XTB2+6G
217
231
233
ZOOM C.B.A.
E
232
208
XQN2
+CF6FZ
XQS26
+CF13FZ
206
XTB2+5G
XTS2+4F
229
XQN2
+CF4FZ
214
XTB2+6G
223
225
XTN17
+5JFZ
XTS2+4F
211
212
202
XQN2
+CF6F8
XQN2+CF4FZ
228
E
AV JACK C.BA.
XQS26+CG8FZ
207
E
TALLY LED C.B.A.
XTB2+6G
XTB2+8G
213
XQN2+CF4FZ
235
XQN2+CF6FZ
210
219
221
234
XTB2+6G
240
238
241
243
216
215
209
220
240
E
SUB S/S C.B.A.
XTB26
+5J
XQN2
+CF6FZ
XQN2
+CF4FZ
XTB2
+5G
222
227
244
E
239
DC JACK
C.B.A.
XTB2+5G
237
226
242
236

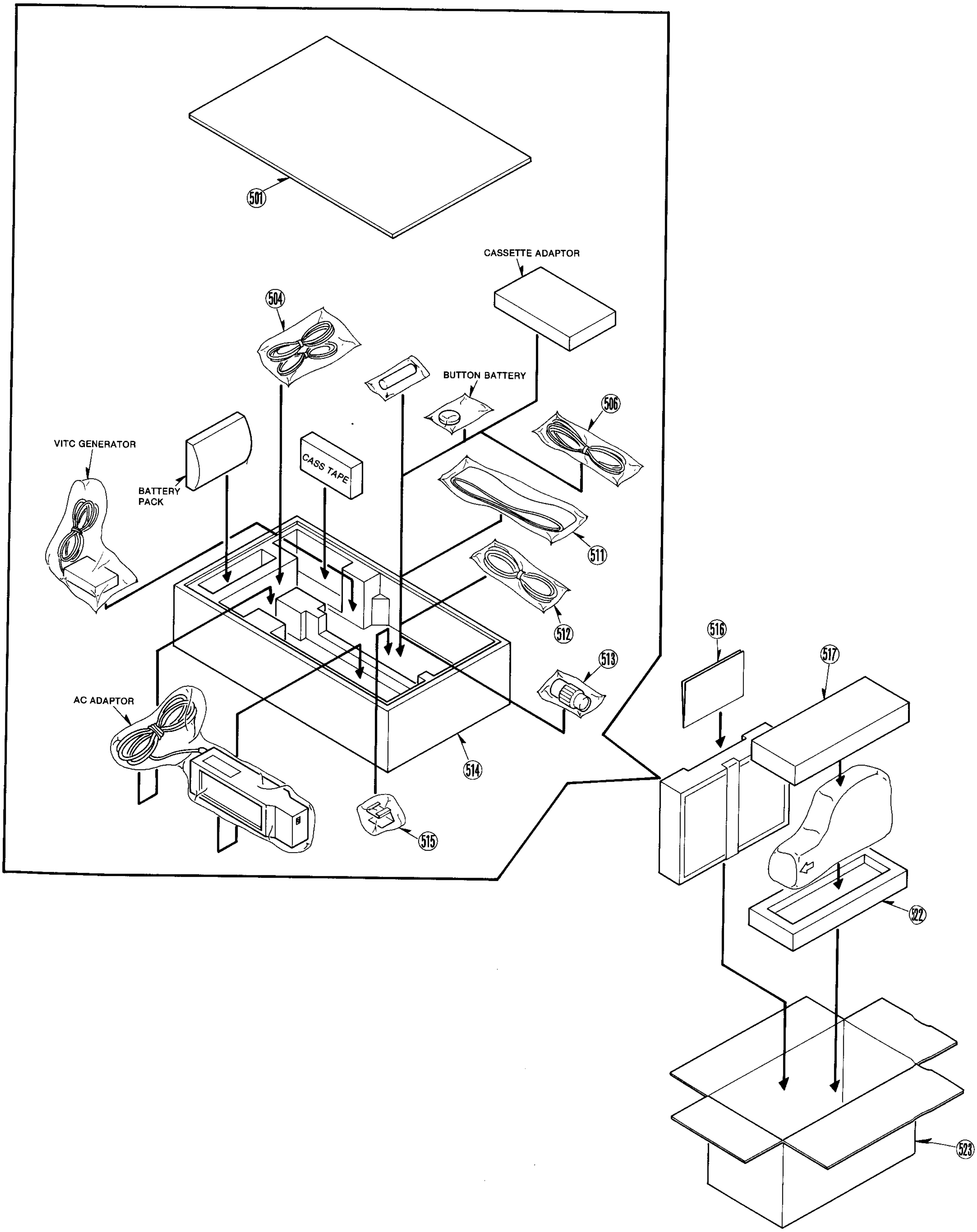
❹ CHASSIS & FRAME SECTION (2)


XQN2+CF4FZ
(312)
XQS2+A7FZ
XQS2
+AM9FZ
(309)
(311)
XQN2
+CF4FZ
XQN2+CF4FZ
(313)
(308)
(316)
XQN2+CF4FZ
VTR SUB
OPERATION
C.B.A.
E
E
(306)
(310)
E
EDIT 5P C.B.A.
E
VTR OPERA-
TION C.B.A.
XTB2+6G
XTB2+6G
(315)
XTB2+6G
XTS2+4F
(301)
XTB2
+4G
(304)
XQN2+CF4FZ
(307)
(303)
(302)
(305)
XQN2
+CF4FZ
XQN2+CF6FZ
XQN2+CF6FZ
XQN26+CF5FZ
XQN2+CF6FZ

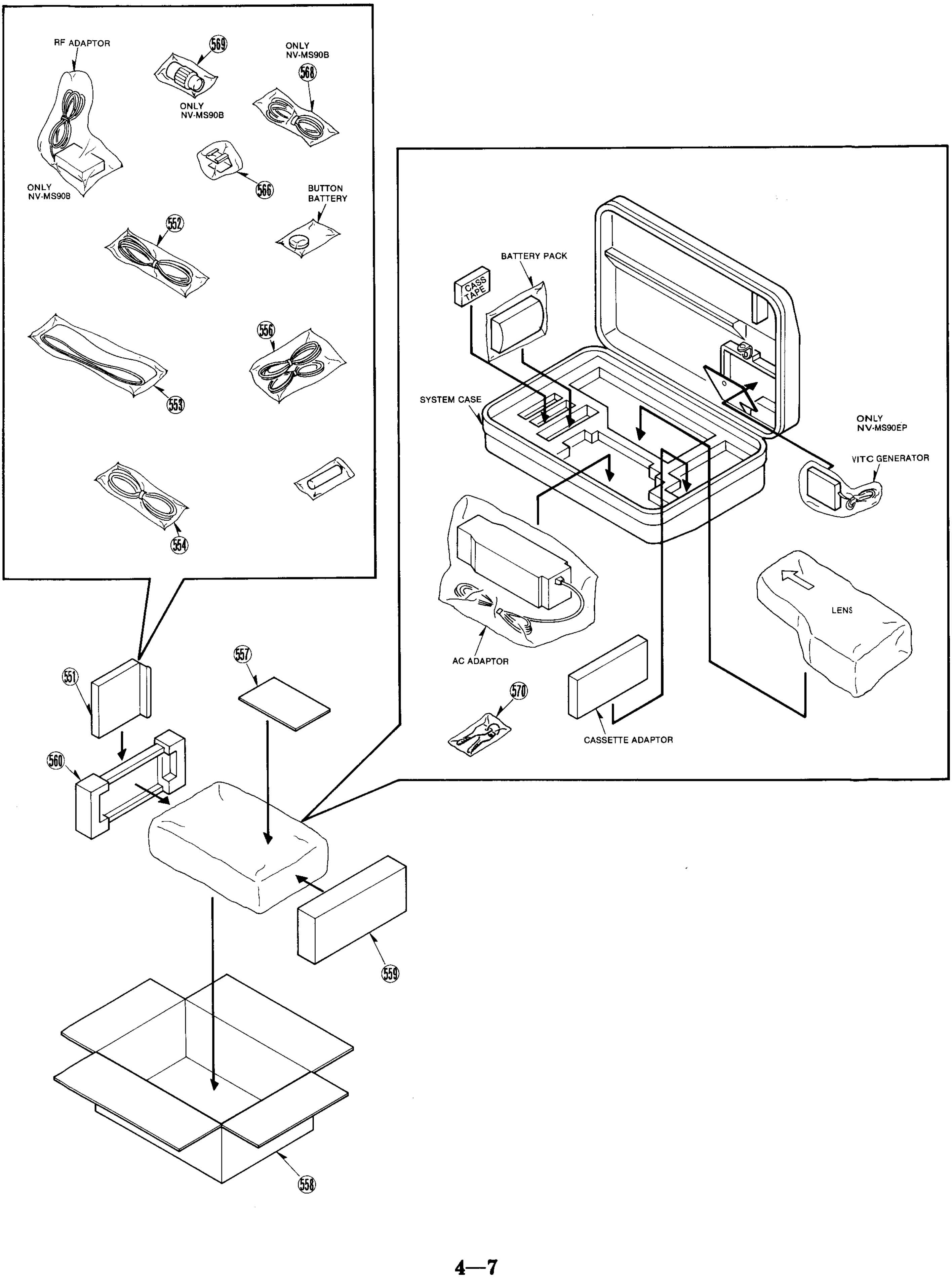
❺ E.V.F. SECTION


418
419
421
420
408
409
410
413
412
415
416
414
XTB2+6G
411
XTB2+6G
417
401
403
E
E.V.F. C.B.A.
XTB2+6G
407
XTB2+12GFZ
404
405
XTB2+6G
406
402

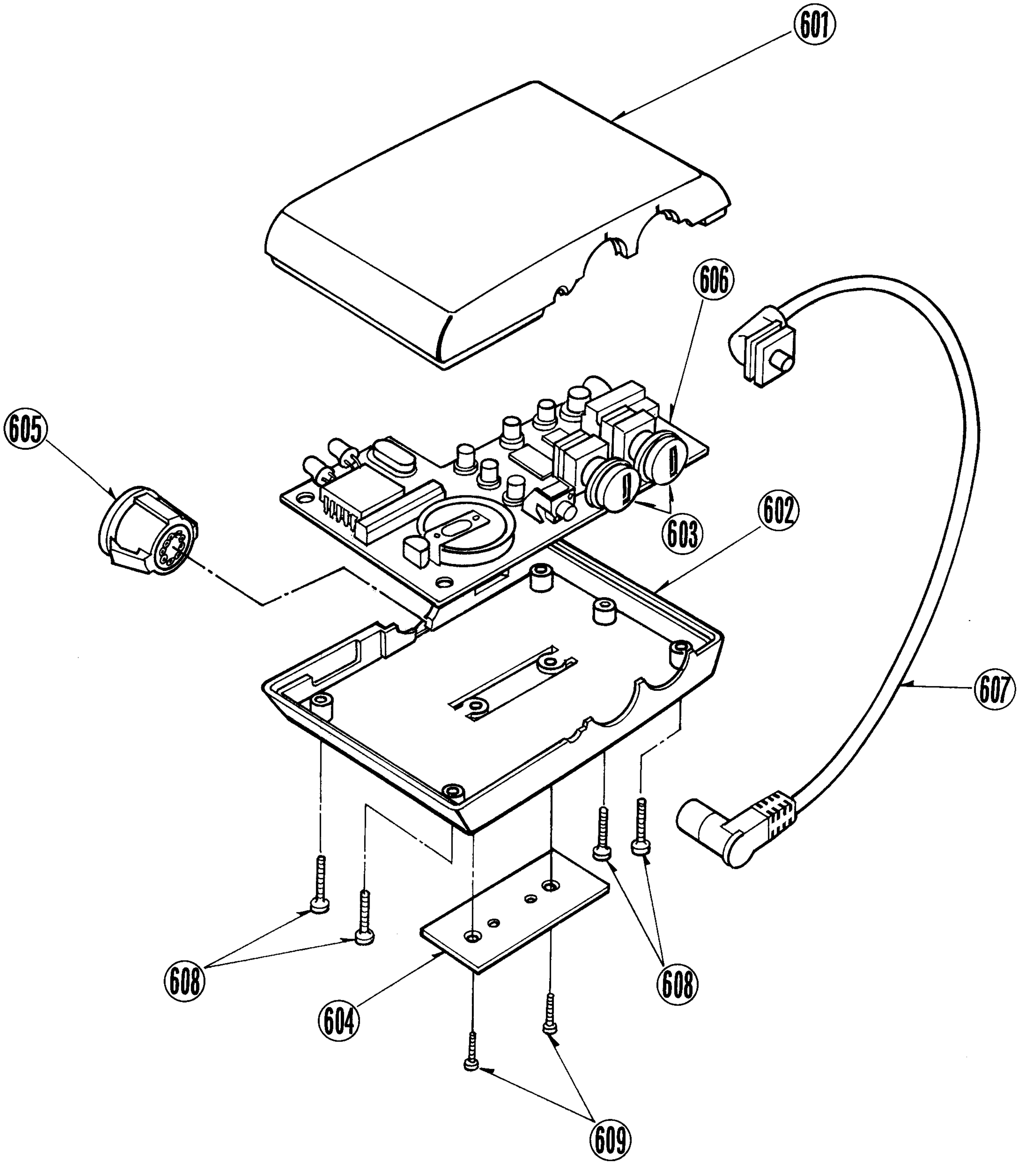
❻ PACKING PARTS & ACCESSORIES SECTION (NV-MS90 B/EP)


501
CASSETTE ADAPTOR
504
BUTTON BATTERY
506
VITC GENERATOR
BATTERY PACK
CASS TAPE
511
512
513
514
AC ADAPTOR
515
516
517
522
523

❼ PACKING PARTS & ACCESSORIES SECTION (NV-MS90 E/EG)


RF ADAPTOR
(569)
ONLY NV-MS90B
ONLY NV-MS90B
(568)
ONLY NV-MS90B
(566)
BUTTON BATTERY
(552)
(556)
(553)
(554)
BATTERY PACK
CASS TAPE
SYSTEM CASE
ONLY NV-MS90EP
VITC GENERATOR
LENS
AC ADAPTOR
(570)
CASSETTE ADAPTOR
(551)
(557)
(560)
(559)
(558)

❽ VITC GENERATOR SECTION (NV-MS90E/EG/EP)


601
606
605
603
602
607
608
608
604
609

4-2. MECHANICAL REPLACEMENT PARTS LIST

Note:1.* Be sure to make your orders of replacement parts according to this list.
2. IMPORTANT SAFETY NOTICE
Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components,use only the same type.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
1(1)		VSC2947	Hi-Fi H. AMP SHIELD CASE	1	
2(1)		VMA7764	H. AMP PLATE	1	
3(1)		VMA7766	CASSETTE STAND (T)	1	
4(1)		VMB1871	SOFT BRAKE SPRING (2)	1	
5(1)		VML2026	SOFT BRAKE ARM	1	
6(1)		VMB1710	SOFT BRAKE SPRING (1)	1	
7(1)		VXL1670	SOFT BRAKE UNIT	1	
8(1)		VXA3965	SHAFT HOLDER (T) UNIT	1	
9(1)		VHD0575	SCREW	1	
10(1)		VXA3064	SHIFT HOLDER (S2)	1	
11(1)		VXA3846	LOADING GUIDE UNIT	1	
12(1)		TLN107A	SENSOR LED	1	
13(1)		VMD1272	LOADING GUIDE	1	
14(1)		VXL1945	PRESSURE LEVER	1	
15(1)		VMB1705	CAM SPRING	1	
16(1)		VXA3038	LOADING RING (S1)	1	
17(1)		VMD1262	RING GUIDE (1)	1	
18(1)		VMD1263	RING GUIDE (2)	1	
19(1)		VXA3052	LOADING GEAR BASE UNIT	1	
20(1)		VDG0408	RING GUIDE GEAR (S)	2	
21(1)		VDG0409	RING GUIDE GEAR (T)	2	
22(1)		VXA3037	LOADING RING (T)	1	
23(1)		VMD1264	RING GUIDE (3)	1	
24(1)		VXL1789	TAPE GUIDE ARM (F) UNIT	1	
25(1)		VMB1707	TAPE GUIDE ARM SPRING	1	
26(1)		VES0534	MODE SELECT SW UNIT	1	
27(1)		VDK0017	CONTROL CAM GEAR	1	
28(1)		VHN0124	ADJUST NUT	1	
29(1)		VMD1578	T3 POST CAP	1	
30(1)		VXA3847	A/C HEAD BASE UNIT	1	
31(1)		VED0119	A/C HEAD UNIT	1	
32(1)		VXA3848	A/C HEAD PLATE	1	
33(1)		VMB1872	TAPE GUIDE SPRING (2)	1	
34(1)		VMB1971	TAPE GUIDE LEVER SPRING	1	
35(1)		VML2191	TAPE GUIDE LEVER	1	
36(1)		VXL1675	TAPE GUIDE LEVER (2) UNIT	1	
37(1)		VMB1716	T3 POST SPRING	1	
38(1)		VMB1995	T2 POST SPRING	1	
39(1)		VMB2035	A/C SPRING	1	
40(1)		VMX1251A	P1 SPACER	1	
41(1)		VXP0904	SECTOR GEAR UNIT	1	
42(1)		VHN0113	T2 UPPER LIMITER	1	
43(1)		VHN0065	TAPE GUIDE NUT	1	
44(1)		VMX1472	T3 POST FLANGE	1	
45(1)		VMX1471	T3 POST BOTTOM	1	
46(1)		VEM0340	LOADING MOTOR UNIT	1	<!>
47(1)		VEM0341	LOADING MOTOR (1) UNIT	1	
48(1)		VDG0494	MOTOR GEAR (B)	1	
49(1)		VDG0495	MOTOR GEAR (A)	1	
50(1)		VHD0442	WORM ADJUST SCREW	1	
51(1)		VXA3852	CASSETTE UP UNIT	1	
52(1)		VES0541	CASSETTE LOCK SW UNIT	1	
53(1)		VMD1266	DOWN SW HOLDER	1	
54(1)		VES0542	CASS. DOWN DETECT SW	1	
55(1)		VXL1957	UPPER RTS ARM UNIT	1	
56(1)		VMB1874	UPPER RTS ARM SPRING	1	
57(1)		VMA7801	STATOR ARM (2)	1	
58(1)		VDG0499	TERMINAL GEAR	1	
59(1)		VHD0390	SCREW	1	
60(1)		VXR0175	REEL TABLE (5)	1	
61(1)		VXZ0249	TENSION BAND UNIT	1	
62(1)		VMB1868	TENSION SPRING	1	
63(1)		VMD1082	BAND ADJUST PIECE	1	
64(1)		VML2281	BAND ARM UNIT	1	
65(1)		VDP1292	S1 POST ROLLER	1	
66(1)		VMX1734	WORM WASHER	1	
67(1)		VMB2038	S1 SPRING	1	
68(1)		VMX1628	S1 COLLAR	1	
69(1)		VMX1690	S1 POST LOWER GUARD	1	
70(1)		VXA3851	FE HEAD BASE (1) UNIT	1	
71(1)		VBS0045	FE HEAD	1	
72(1)		VEK4562	END SENSOR UNIT	1	
73(1)		PN158NVNC	PHOTO TRANSISTOR	1	
74(1)		VXL1944	TENSION ARM (1) UNIT	1	
75(1)		VXA3843	CASSETTE STAND (S) UNIT	1	
76(1)		VXL1771	EJECT LEVER UNIT	1	
77(1)		VEG0719	DD CYLINDER UNIT	1	
78(1)		VET0129	UPPER RTR UNIT	1	
79(1)		VEH0442	UPPER CYLINDER UNIT	1	
80(1)		VMD1265	RING LIMITER	1	
81(1)		VMD1100	LOADING GUIDE (T)	1	
82(1)		VXA4010	V STOPPER BASE UNIT	1	
83(1)		VDP1320	IMPEDANCE (S3) ROLLER	1	
84(1)		VMC0360	PRESSURE PLATE	1	
85(1)		VMD1446	V STOPPER BASE	1	
86(1)		VMD1429	CASS. SUPPORT BASE UNIT	1	
87(1)		VHD0443	UPPER RT SCREW	2	
88(1)		VHD0568	END SENSOR SCREW	1	
89(1)		VHN0047	M2 NYLON NUT	1	
90(1)		VMD1447	V STOPPER	1	
91(1)		VHD0537	SCREW	1	
92(1)		VXS0077	EARTH BRUSH	1	
93(1)		VDV0170	DRIVE BELT	1	
94(1)		VEM0284	CAPSTAN MOTOR UNIT	1	
95(1)		VEK3345	STATOR UNIT	1	
96(1)		VXP0873	ROTOR UNIT	1	
97(1)		VMB1734	THRUST SPRING	1	
98(1)		VMA7112	MR SHIELD COVER	1	
99(1)		VMD1077	LOADING GUIDE (S)	1	
100(1)		VMD1436	SPACER	1	
101(1)		VXP0890	CLUTCH GEAR (T) UNIT	1	
102(1)		VDG0407	REEL GEAR (T)	1	
103(1)		VXP0922	IDLER UNIT	1	
104(1)		VSH0049	S/REC DETECT SW	2	
105(1)		VSC2945	VIDEO H. AMP SHIELD (UPPER)	1	
106(1)		VMX1061	WASHER	5	
107(1)		VHD0439	SCREW	2	
108(1)		VHD0525	A/C SCREW	1	
109(1)		VHD0526	SCREW	1	
110(1)		VHD0536	SCREW	1	
111(1)		VMX1042	WASHER	1	
112(1)		VMB2036	SPRING	1	
113(1)		VXL1943	A/C HEAD ARM	1	
114(1)		VHN0047	M2 NYLON NUT	1	
116(1)		VHD0389	SCREW	5	
118(1)		VEK4635	DEW SENSOR	1	
120(1)		VMB1824	SPRING (S)	1	
121(1)		VMA7772	HOLDER STAY (F)	1	
122(1)		VMA7771	HOLDER STAY (R)	1	
123(1)		VMB1860	LOCK SPRING	1	
124(1)		VMB2039	CATCH PLATE (S)	2	
125(1)		VXL1664	OPEN SLIDE LEVER	1	
126(1)		VMB1721	OPEN SLIDE LEVER SPRING	1	
127(1)		VWJ0394	H. AMP-MAIN FLEX. CABLE	1	
128(1)		VMS3533	CASSETTE POSITIONING PIN	1	
129(1)		VHD0288	UPPER CYLINDER SCREW	2	
130(1)		VXJ0062	ROLLER POST (S2)	1	
131(1)		VHD0392	SCREW	1	
132(1)		VMB1774	PRESSURE ROLLER SPRING	1	
133(1)		VDG0410	LOADING GEAR (S)	1	
134(1)		VDG0411	LOADING GEAR (T)	1	
135(1)		VXA3374	LOADING MOTOR BRACKET	1	
136(1)		VML2040	OPEN LEVER	1	
137(1)		VXP0891	DUMPER	1	
139(1)		VMB1714	LOADING SPRING (S)	1	
141(1)		VDB0898	UPPER BEARING	1	
142(1)		VDB0899	LOWER BEARING	1	
201(2)		VMX1694	EVF MOUNT SPACER	1	
202(2)		VHD0584	SCREW	2	
203(2)		VHD0440	SCREW	1	
204(2)		VYK3020	BELT FOOK COVER UNIT	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
205(2)		VYK3019	SIDE CASE (L) UNIT	1	
206(2)		VEK4834	MIC UNIT	1	
207(2)		VGH2348	BATTERY NAME PLATE	1	
208(2)		VYC0366	GRIP BELT UNIT	1	
209(2)		VMD1344	STAND PIECE (T)	1	
210(2)		VMP2373	MIC ANGLE	1	
211(2)		VMP2367	SUB CASE FIXING ANGLE	1	
212(2)		VMP2366	EVF MOUNT ANGLE	1	
213(2)		VMP1789	FIXING ANGLE (B)	1	
214(2)		VMP2370	CASE FIXING ANGLE (C)	1	
215(2)		VGQ1915	BATTERY LOCK HOLDER	1	
216(2)		VXA3870	GRIP BELT ANGLE UNIT	1	
217(2)		VXU0949	ZOOM BUTTON UNIT	1	
219(2)		VGU4417	SUB REC BUTTON	1	
220(2)		VMP2464	SUB REC BUTTON ANGLE	1	
221(2)		VMG0358	RUBBER SW	1	
222(2)		VMZ1493	INSULATION BARRIER	1	
223(2)		VMP1355	SHOULDER BELT ANGLE	1	
			(BOTTOM)		
224(2)		VKF1328	FOOD CAP	1	
225(2)		VMG0495	WASHER	1	
226(2)		VMZ1596	PROCESS SHIELD BARRIER	1	
227(2)		VMX1834	CAMERA SPACER	1	
228(2)		VMZ1607	MIC BARRIER	1	
229(2)		VGQ2143	ZOOM BUTTON SHEET	1	
230(2)		VGQ1349	FOOD STRAP	1	
231(2)		VGU4864	ZOOM BUTTON	1	
232(2)		VGQ1916	ZOOM BUTTON HOLDER	1	
233(2)		VMG0462	RUBBER CONTACT	2	
234(2)		VGQ2052	ESD BARRIER	1	
235(2)		VGQ2131	LENS MOUNT BUTTON	1	
236(2)		VEK4851	COVER FPC UNIT	1	
237(2)		VKF1239	BATTERY COVER (LARGE)	1	
238(2)		VJP2819	CONNECTOR (MALE)	1	
239(2)		VYK2747	BATTERY BRACKET UNIT	1	
240(2)		VMC0403	BATTERY TERMINAL BOARD	2	
241(2)		VGQ1608	BATTERY TERMINAL BOARD	1	
			HOLDER		
242(2)		VMZ1559	BARRIER	1	
243(2)		VWJ0403	FLEXIBLE CABLE	1	
244(2)		VHD0599	BACK UP BATT. COVER SCREW	2	
245(2)		VHD0451	SCREW	1	
246(2)		VHD0395	SCREW	1	
247(2)		VMZ1556	BARRIER	1	
248(2)		VDW0094	LENS FOOD	1	
249(2)		VHD0584	EVF MOUNT SCREW	2	
250(2)		VMX1332	BUSHING SPACER	1	
301(3)		VYK3005	SIDE CASE (R) UNIT	1	
302(3)		VMB1986	SAFETY SPRING	1	
303(3)		VML2422	SAFETY LEVER	1	
304(3)		VMP1793	REINFORCEMENT ANGLE	1	
305(3)		VMP2369	FIXING ANGLE	1	
306(3)		VYK3012	TOP CASE UNIT	1	
307(3)		VYP3058	CASSETTE COVER UNIT	1	
308(3)		VMP2368	CASE FIXING ANGLE (A)	1	
309(3)		VMP2407	SHOE	1	
310(3)		VMP2377	SHOE FIXING ANGLE	1	
311(3)		VMC0597	SHOE SPRING	1	
312(3)		VYK3021	VTR OPERATION CASE UNIT	1	
313(3)		VYK3022	REAR OPERATION CASE UNIT	1	
314(3)		VGU4868	EJECT BUTTON	1	
315(3)		VWJ0393	FLEXIBLE CARD	1	P6502-P6201
316(3)		VWJ14XW050TT	FLEXIBLE CARD	1	P6504-P6601
351(4)		VSC2973	SENSOR FRAME SHIELD CASE	1	
352(4)		VYK3210	LENS FRONT COVER UNIT	1	
353(4)		VHD0398	SCREW	1	
354(4)		VWJ0386	FLEXIBLE CARD	1	IRIS UNIT - FP302
355(4)		VWJ0402	FLEXIBLE CARD	1	FP307-P1002
356(4)		VMP2374	CAMERA OPERATION ANGLE	1	
357(4)		VMP2405	DIGI. MEMO. ANGLE	1	
358(4)		VMP2372	CAMERA FIX. ANGLE (B)	1	
359(4)		VJF0761	SENSOR FRAME	1	
360(4)		VMP2762	AWT C.B.A. FRAME	1	
361(4)		VMP2463	IR SENSOR SPRING	1	
362(4)		VDL0170	IR CUT FILTER	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
363(4)		VMD1438	SENSOR C.B.A. FRAME	1	
364(4)		VWJ0400	FLEXIBLE CARD	1	CCD UNIT - FP201
365(4)		VMA7183	CCD HOLDER PLATE	1	
366(4)		VMX1804	CCD CUSHION	1	
367(4)		VDL0247	CRYSTAL FILTER	1	
368(4)		VXW0059	LENS UNIT	1	
369(4)		VDW0106	FOCUS RUBBER RING	1	
370(4)		VDW0097	FOCUS RING	1	
371(4)		VXP1188	LENS (1) UNIT	1	
372(4)		VXL1954	IRIS UNIT	1	
373(4)		VXQ0126	MASTER FLANGE UNIT	1	
374(4)		MN3762F	CCD	1	
375(4)		VXQ0017	ACTUATOR UNIT	1	
376(4)		VMP2371	CAMERA FIX. ANGLE (A)	1	
377(4)		VXA3887	FOCUS DRIVE UNIT	1	
378(4)		VEM0342	FOCUS MOTOR	1	
379(4)		VEM0343	ZOOM MOTOR	1	
381(4)		VWJ09XW100TT	FLEXIBLE CARD	1	P6202-FP306
401(5)		VKM1891	EVF CASE (L)	1	
402(5)		VKC0376	ROTATION PIECE	1	
403(5)		VKM1892	EVF CASE (R)	1	
404(5)		VMC0596	ROTATION LOCK SPRING	1	
405(5)		VMP2327	STEEL BALL	2	
406(5)		VMP2668	STEEL BALL FIXING ANGLE	1	
407(5)		VMZ1535	SHIELD PLATE	1	
408(5)		VJF0753	EYESIGHT ADJUST RING	1	
409(5)		VKM1893	EYESIGHT ADJUST CASE	1	
410(5)		VMX1322	O RING	1	
411(5)		ELY07V552K	DY (DY801)	1	
412(5)		M01JVV47WB-A	CRT (V801)	1	
413(5)		VGF0336	CRT MASKING	1	
414(5)		VJF0742	CRT HOLDER	1	
415(5)		VMX1797	CRT RUBBER	1	
416(5)		VGL0405	LED PANEL LIGHT	1	
417(5)		VEE5792	CRT SOCKET	1	
418(5)		VMG0532	EYE CAP	1	
419(5)		VJF0743	EYE CAP HOLDER	1	
420(5)		VDL0145	EVF LENS	1	
421(5)		VJF0827	EVF LENS HOLDER	1	
501(6)		VPN2545	ACCESSORY PAD	1	NV-MS90E/EG
504(6)		VFA0028	AV OUTPUT CABLE	1	NV-MS90E/EG
506(6)		VJA0453	S-VIDEO 4PIN CORD	1	NV-MS90E/EG
511(6)		VFC0729	SHOULDER BELT	1	NV-MS90E/EG
512(6)		VJA0401	DC INPUT CABLE	1	NV-MS90E/EG
513(6)		VFA0097	BNC/PHONO ADAPTOR PLUG	1	NV-MS90E/EG
514(6)		VPN2730	ACCESSORY BOX	1	NV-MS90E/EG
515(6)		VFC0820	SHOE ADAPTOR	1	NV-MS90E/EG
516(6)		VQT3570	OPERATING INSTRUCTIONS	1	NV-MS90E/EG <!>
			(ENGLISH/GERMAN)		
516(6)		VQT3574	OPERATING INSTRUCTIONS	1	NV-MS90E <!>
			(FRENCH/ITALIAN)		
516(6)		VQT3578	OPERATING INSTRUCTIONS	1	NV-MS90E <!>
			(SPANISH/DUTCH)		
517(6)		VPN2542	CUSHION (UPPER)	1	NV-MS90E/EG
522(6)		VPN2543	CUSHION (LOWER)	1	NV-MS90E/EG
523(6)		VPG5263	PACKING CASE	1	NV-MS90E
523(6)		VPG5262	PACKING CASE	1	NV-MS90EG
551(7)		VPK1268	ACCESSORY CASE	1	NV-MS90B
551(7)		VPK1209	ACCESSORY CASE	1	NV-MS90EP
552(7)		VJA0453	S-VIDEO 4PIN CORD	1	NV-MS90B/EP
553(7)		VFC0729	SHOULDER BELT	1	NV-MS90B/EP
554(7)		VJA0401	DC INPUT CORD	1	NV-MS90B/EP
556(7)		VFA0028	AV OUTPUT CABLE	1	NV-MS90B/EP
557(7)		VQT3568	OPERATING INSTRUCTIONS	1	NV-MS90B <!>
			(ENGLISH)		
557(7)		VQT3570	OPERATING INSTRUCTIONS	1	NV-MS90EP <!>
			(ENGLISH/GERMAN)		
557(7)		VQT3574	OPERATING INSTRUCTIONS	1	NV-MS90EP <!>
			(FRENCH/ITALIAN)		
557(7)		VQT3578	OPERATING INSTRUCTIONS	1	NV-MS90EP <!>
			(SPANISH/DUTCH)		
557(7)		VQT3584	OPERATING INSTRUCTIONS	1	NV-MS90EP <!>
			(SWEDISH)		
557(7)		VQT3582	OPERATING INSTRUCTIONS	1	NV-MS90EP <!>

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			(DANISH/FINISH)		
558(7)		VPG5259	PACKING CASE	1	NV-MS90EP
558(7)		VPG5501	PACKING CASE	1	NV-MS90B
559(7)		VPN1994	CUSHION (R)	1	NV-MS90B/EP
560(7)		VPN1995	CUSHION (L)	1	NV-MS90B/EP
566(7)		VFC0820	SHOE ADAPTOR	1	NV-MS90B/EP
568(7)		VJA0376	DIN RF CABLE	1	NV-MS90B
569(7)		VFA0097	BNC/PHONO ADAPTOR PLUG	1	NV-MS90B/EP
570(7)		VYC0096	KEY	1	NV-MS90B/EP
601(8)		VKM2381	TOP CASE	1	NV-MS90E/EG/EP
602(8)		VKM2382	BOTTOM CASE	1	NV-MS90E/EG/EP
603(8)		VGU5284	ROTARY BUTTON	2	NV-MS90E/EG/EP
604(8)		VGQ2249	SHOE	1	NV-MS90E/EG/EP
605(8)		VKF1547	CAP	1	NV-MS90E/EG/EP
606(8)		VEP67003A	VITC MAIN C.B.A.	1	NV-MS90E/EG/EP
607(8)		VJA0639	CABLE	1	NV-MS90E/EG/EP
608(8)		VHD0610	SCREW	4	NV-MS90E/EG/EP
609(8)		VHD0611	SCREW	2	NV-MS90E/EG/EP
			JIGS & TOOLS		
		VFM8180H8PF	VHS-C ALIGNMENT TAPE	1	
		VFK0304	Y/C SEPARATOR	1	
		VFK0382	CAMERA HPLDER	1	
		VFK0431	CAMERA HOLDER ARM	1	
		VFK0432	HOLDER SPACER	1	
		XSN2+16	SCREW	2	
		VFK0374	COLOUR TEMP. CONV. FILTER	1	(C12)
		VFK0375	COLOUR TEMP. CONV. FILTER	1	(C2)
		VFK0547	COLOUR TEMP. CONV. FILTER	1	(C8)
		VMX1304	CLEARANCE SPACER	1	
		VMS3504	ALIGNMENT SHAFT	1	
		VKW1049	DIFFUSION PLATE	1	
		VFK0494	EXTENSION CABLE (18P)	1	
		VFK0606	EXTENSION CABLE (24P)	1	
		VFK0609	EXTENSION CABLE (22P)	1	
		VFK0610	EXTENSION CABLE (20P)	1	
		VFK0614	EXTENSION CABLE (13P)	1	
		VFK0631	EXTENSION CABLE (12P)	1	
		VFK0638	EXTENSION CABLE (10P)	2	
		VFK0640	CONNECTOR	1	
		VFKS0060	EXTENSION CABLE (2P)	1	
		VFKS0068	EXTENSION CABLE (4P)	1	
		VFK0335	RETAINING RING REMOVER	1	
		VFK0329	POST ADJUSTMENT SCREWDRIVER	1	
		VFK0343	CHECK LIGHT	1	
		VFK0326	HEX WRENCH SET	1	
		VFK27	HEAD CLEANING STICK	1	
		MOR265	MORLYTONE GREASE	1	

4-3. ELECTRICAL REPLACEMENT PARTS LIST

Note:1.* Be sure to make your orders of replacement parts according to this list.
2.IMPORTANT SAFETY NOTICE
Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components,use only the same type.
3.Unless otherwise specified,
All resistors are in OHMS ,K=1,000 OHMS. All capacitors are in MICRO-FARADS(uf),P=uuF.
4.The P.C.Board units marked width'■'show below the main assembled parts.
5.Printed circuit board assembly with mark(NIA) is no longer available after discontinuation of the product.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			---CAMERA SECTION----		
		VEP27053A	AUTO FOCUS C.B.A.	1	(NLA)
		VEP23101A	PROCESS C.B.A.	1	(NLA)
		VEP26061A	AWT C.B.A.	1	(NLA)
		VEP21095B	DIGITAL MEMORY C.B.A.	1	(NLA)
		VEP22090A	CCD DRIVE C.B.A.	1	(NLA)
		VEP06590B	LCD C.B.A.	1	(NLA)
			---E.V.F. SECTION---		
		VEP28029A	E.V.F. C.B.A.	1	(NLA)
			---VTR SECTION---		
		VEP06675A	MAIN C.B.A.	1	(NLA) INCLUDING THE AUDIO SUB C.B.A. (VEP04305A),EDIT 5P C.B.A.(VEK4975).
		VEP04305A	AUDIO SUB C.B.A.	1	(NLA)
		VEK4975	EDIT 5P C.B.A.	1	(NLA)
		VEP03758A	LUMINANCE/CHROMINANCE C.B.A.	1	(NLA) INCLUDING THE PAL JOG C.B.A. (VEP03771A).
		VEP03771A	PAL JOG C.B.A.	1	(NLA)
		VEP02349A	DRIVE C.B.A.	1	(NLA)
		VEP04306A	HI-FI AUDIO C.B.A.	1	(NLA)
		VEP05161A	VIDEO HEAD AMP C.B.A.	1	(NLA)
		VEP05153A	HI-FI AUDIO HEAD AMP C.B.A.	1	(NLA)

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
		VEP06602A	VTR OPERATION C.B.A.	1	(NLA)
		VEP06603A	VTR SUB OPERATION C.B.A.	1	(NLA)
		VEP00Q11A	INTERFACE C.B.A.	1	(NLA) INCLUDING THE TARRY LED C.B.A. (VEK4409),CHARACTER GENERATOR C.B.A. (VEK4408),SUB START/ STOP C.B.A.(VEK4485)
	■	VEK4409	TARRY LED C.B.A.		(NLA)
	■	VEK4408	CHARACTER GENERATOR C.B.A.		(NLA)
	■	VEK4485	SUB START/STOP C.B.A.		(NLA)
		VEK4852	DC JACK C.B.A.	1	(NLA)
		VEK4410	ZOOM C.B.A.	1	(NLA)
		VEK4745	AV JACK C.B.A.	1	(NLA)
		VEP00P37A	FOCUS & ZOOM POSITION C.B.A.	1	(NLA)
		VWJ0402	FLEXIBLE CARD	1	FP307-P1002
		VWJ0393	FLEXIBLE CARD	1	P6502-P6201
		VWJ0403	FLEXIBLE CARD	1	P1701-P1001
		VWJ0386	FLEXIBLE CARD	1	IRIS UNIT - FP302
		VWJ0400	FLEXIBLE CARD	1	CCD - FP201
		VWJ09XW100TT	FLEXIBLE CARD	1	P6202-FP306
	■	VEP27053A	AUTO FOCUS C.B.A.		(NLA)
B701		VJP1948	CONNECTOR (MALE)	1	
			CAPACITORS		
C701		ECEA0JU471	E.CAPACITOR 6.3V 470U	1	
C702		ECUM1H180JCV	C.CAPACITOR CH 50V 18P	1	
C703		ECRJA030E12	V.CAPACITOR	1	
C706		ECUM1H101JCV	C.CAPACITOR CH 50V 100P	1	
C710,11		ECUM1E473KBM	C.CAPACITOR CH 25V 0.047U	2	
C712		ECEA0JKS101	E.CAPACITOR 6.3V 100U	1	
C713		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C714		ECEA0JKS101	E.CAPACITOR 6.3V 100U	1	
C715		ECSF1AE106	T.CAPACITOR 10V 10U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C716-19		ECEA1CKS100	E.CAPACITOR 16V 10U	4	
C720		ECEA0JSN220	E.CAPACITOR 6.3V 22U	1	
C721		ECUM1E473ZFN	C.CAPACITOR CH 25V 0.047U	1	
C722-24		ECUM1E273KBN	C.CAPACITOR CH 25V 0.027U	3	
C725		ECUM1E683ZFN	C.CAPACITOR CH 25V 0.063U	1	
C726		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C727-29		ECUM1C224ZFN	C.CAPACITOR CH 16V 0.22U	3	
C730		ECUM1H101JCV	C.CAPACITOR CH 50V 100P	1	
C731		ECUM1E473ZFN	C.CAPACITOR CH 25V 0.047U	1	
C732-35		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	4	
C736		ECUM1H331JCV	C.CAPACITOR CH 50V 330P	1	
C737		ECRJA020E12	TRIMER	1	
C738,39		ECUM1C224ZFN	C.CAPACITOR CH 16V 0.22U	2	
C740		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C741		ECST1AC106Z	T.CAPACITOR 10V 10U	1	
C742		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C743		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C744,45		ECEA0JKS470	E.CAPACITOR 6.3V 47U	2	
C746		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C747		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C748		ECEA1CU100	E.CAPACITOR 16V 10U	1	
C749,50		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C751		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C752,53		ECUM1C104ZFV	C.CAPACITOR CH 16V 0.1U	2	
D702		MA141A	DIODE	1	
D703,04		1SS250	DIODE	2	
FL701		ELB4B004	FILTER	1	
FL702		VLF0595	FILTER	1	
FL703		ELB4B005	FILTER	1	
FL704		ELB4D001	FILTER	1	
FL705		VLF0596	FILTER	1	
FP701		VJS2112	CONNECTOR (FEMALE)	1	
IC701		MN15867VFK4	IC	1	
IC702		AN2584NFAP	IC	1	
IC704		AN6545SP	IC	1	
IC705		RC3415M	IC	1	
IC706		AN6664S	IC	1	
L701		VLQ0436	COIL	1	
L702		VLQ0319K101	COIL 100UH	1	
L703		ELJFA330KF	COIL	1	
L704		VLQ0319F150	COIL 15UH	1	
P702		VJP1595R	CONNECTOR(MALE) 2P	1	
P704		VJP1596T	CONNECTOR(MALE) 3P	1	
P705		VJP1595T	CONNECTOR(MALE) 2P	1	
P706		VJP1608T	CONNECTOR(MALE)	1	
Q701		UN2211	TRANSISTOR-RESISTOR	1	
Q704		2SA1255	TRANSISTOR	1	
Q705		2SC3138	TRANSISTOR	1	
Q706,07		2SD1819	TRANSISTOR	2	
Q708		2SD1483	TRANSISTOR	1	
			RESISTORS		

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R701		ERJ3GEYJ220	M.RESISTOR CH1/16W 22	1	
R702,03		ERJ3GEYJ563	M.RESISTOR CH1/16W 56K	2	
R704-06		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	3	
R707,08		ERJ3GEYJ563	M.RESISTOR CH1/16W 56K	2	
R709		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R710-16		ERJ3GEYJ104	M.RESISTOR CH1/16W 100K	7	
R717		ERJ3GEYJ123	M.RESISTOR CH1/16W 12K	1	
R718		ERJ3GEYJ154	M.RESISTOR CH1/16W 150K	1	
R719		ERJ3GEYG473	M.RESISTOR CH1/16W 47K	1	
R720		ERJ3GEYG563	M.RESISTOR CH1/16W 56K	1	
R721,22		ERJ3GEYJ154	M.RESISTOR CH1/16W 150K	2	
R723		ERJ3GEYG563	M.RESISTOR CH1/16W 56K	1	
R724		ERJ3GEYG473	M.RESISTOR CH1/16W 47K	1	
R725		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	1	
R728		ERJ3GEYJ823	M.RESISTOR CH1/16W 82K	1	
R729		ERJ3GEYJ394	M.RESISTOR CH1/16W 390K	1	
R730		ERJ3GEYJ474	M.RESISTOR CH1/16W 470K	1	
R731		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	1	
R732		ERJ3GEYG822	M.RESISTOR CH1/16W 8.2K	1	
R733		ERJ3GEYG472	M.RESISTOR CH1/16W 4.7K	1	
R734-38		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	5	
R739		ERJ3GEYJ823	M.RESISTOR CH1/16W 82K	1	
R742		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R743		ERJ3GEYJ472	M.RESISTOR CH1/16W 4.7K	1	
R744		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	1	
R745		ERJ3GEYJ100	M.RESISTOR CH1/16W 10	1	
R746		ERJ3GEYJ273	M.RESISTOR CH1/16W 27K	1	
R747		ERJ3GEYJ104	M.RESISTOR CH1/16W 100K	1	
R748,49		ERJ3GEYJ274	M.RESISTOR CH1/16W 270K	2	
R750		ERJ3GEYJ331	M.RESISTOR CH1/16W 330	1	
R752		ERJ3GEYJ273	M.RESISTOR CH1/16W 27K	1	
R753		ERJ3GEYJ682	M.RESISTOR CH1/16W 6.8K	1	
R754		ERJ3GEYJ564	M.RESISTOR CH1/16W 560K	1	
R756		ERJ3GEYJ221	M.RESISTOR CH1/16W 220	1	
R757		ERJ3GEYJ332	M.RESISTOR CH1/16W 3.3K	1	
R758		ERJ3GEYJ221	M.RESISTOR CH1/16W 220	1	
R759		ERJ3GEYJ332	M.RESISTOR CH1/16W 3.3K	1	
R760		ERJ3GEYJ562	M.RESISTOR CH1/16W 5.6K	1	
R761		ERJ3GEYJ333	M.RESISTOR CH1/16W 33K	1	
R770		ERJ3GEY0R00	M.RESISTOR CH1/16W 0.00	1	
T701		ETE13K43AY	TRANSFORMAR	1	
VR701		EVLHGNA14A54	V.RESISTOR 50K	1	
VR703		EVM7JSX30B14	V.RESISTOR 10K	1	
X701		VSX0299	CRYSTAL OSCILLATOR	1	
			MISCELLANEOUS		
		VSC2318	AF SHIELD BOX	1	
	■	VEP23101A	PROCESS C.B.A.		(NLA)
B301		VJS2803	CONNECTOR (FEMALE)	1	
B303,04		VJS2771A011T	CONNECTOR (FEMALE)	2	
B305		VJS1948	CONNECTOR	1	
			CAPACITORS		
C301		ECUM1H181JCV	C.CAPACITOR CH 50V 180P	1	
C303		ECUM1H471KBV	C.CAPACITOR CH 50V 470P	1	
C304		ECUM1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C306		ECEV1CA100	E.CAPACITOR 16V 10U	1	
C307		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C309		ECUM1H470JCV	C.CAPACITOR CH 50V 47P	1	
C310		ECUM1H331JCV	C.CAPACITOR CH 50V 330P	1	
C320		ECSF0JE226	T.CAPACITOR 6.3V 22U	1	
C321		ECEV1CA100	E.CAPACITOR 16V 10U	1	
C322		ECEV1CAN4R7R	E.CAPACITOR 16V 4.7U	1	
C323		ECEV1CA100	E.CAPACITOR 16V 10U	1	
C324		ECEV1HA2R2	E.CAPACITOR 50V 2.2U	1	
C325,26		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C327		ECEV1HA3R3	E.CAPACITOR 50V 3.3U	1	
C328,29		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C331		ECSF1AE226	T.CAPACITOR 10V 22U	1	
C332		ECUM1H390JCV	C.CAPACITOR CH 50V 39P	1	
C401		ECEA1CKK100I	E.CAPACITOR 16V 10U	1	
C402		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C403		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C404		ECUM1H101JCV	C.CAPACITOR CH 50V 100P	1	
C405		ECEV1HA010	E.CAPACITOR 50V 1U	1	
C406		ECSF1AE226	T.CAPACITOR 10V 22U	1	
C407		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C409		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C410		ECSF0JE336	T.CAPACITOR 6.3V 33U	1	
C411,12		ECUM1C224ZFN	C.CAPACITOR CH 16V 0.22U	2	
C413		ECUM1H270JCV	C.CAPACITOR CH 50V 27P	1	
C414,15		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C416		ECUM1C224ZFN	C.CAPACITOR CH 16V 0.22U	1	
C417		ECUM1H330JCV	C.CAPACITOR CH 50V 33P	1	
C418,19		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C420		ECUM1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C421		ECEV1CA100	E.CAPACITOR 16V 10U	1	
C425		ECSF1AE106	T.CAPACITOR 10V 10U	1	
C426		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C427		ECST1CY105Z	T.CAPACITOR 16V 1U	1	
C428		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C429,30		ECUM1H151JCV	C.CAPACITOR CH 50V 150P	2	
C431		ECRJA020E12	TRIMER	1	
C432		ECUM1H330JCV	C.CAPACITOR CH 50V 33P	1	
C434		ECUM1H472KBV	C.CAPACITOR CH 50V 4700P	1	
C437		ECEA1EKS4R7I	E.CAPACITOR 25V 4.7U	1	
C438		ECSF1CE336	T.CAPACITOR 16V 33U	1	
C439		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C440		ECEV1EA4R7R	E.CAPACITOR 25V 4.7U	1	
C441		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C442		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C443		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C444		ECUM1H101JCV	C.CAPACITOR CH 50V 100P	1	
C445		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C448		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C449		ECEV1EA4R7R	E.CAPACITOR 25V 4.7U	1	
C450		ECUM1H101JCV	C.CAPACITOR CH 50V 100P	1	
C452		ECUM1H100DCV	C.CAPACITOR CH 50V 10P	1	
C501		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C502		ECEV1CA100	E.CAPACITOR 16V 10U	1	
C503		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C504		ECEV1AAN100	E.CAPACITOR 10V 10U	1	
C505,06		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C507		ECEV1AAN100	E.CAPACITOR 10V 10U	1	
C508		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C509		ECUM1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C510		ECEV1EA4R7R	E.CAPACITOR 25V 4.7U	1	
C511		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C601-04		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	4	
C605		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C606		ECEV1CA100	E.CAPACITOR 16V 10U	1	
C607,08		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C609		ECEV1CA100	E.CAPACITOR 16V 10U	1	
C611		ECUM1H150JCV	C.CAPACITOR CH 50V 15P	1	
C612		ECUM1H120JCV	C.CAPACITOR CH 50V 12P	1	
C613		ECRJA020E12	TRIMER	1	
C614		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C615		ECEA1CKK100I	E.CAPACITOR 16V 10U	1	
C615		ECEA1CKK100	E.CAPACITOR 16V 10U	1	
C616		ECUM1H390JCV	C.CAPACITOR CH 50V 39P	1	
C617		ECUM1C224ZFN	C.CAPACITOR CH 16V 0.22U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C618		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C619,20		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	2	
C621		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C622		ECUM1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C623		ECST1CY105Z	T.CAPACITOR 16V 1U	1	
C624		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C625		ECST1CY105Z	T.CAPACITOR 16V 1U	1	
C626		ECUM1H560JCV	C.CAPACITOR CH 50V 56P	1	
C627		ECUM1C224ZFN	C.CAPACITOR CH 16V 0.22U	1	
C628		ECUM1H390JCV	C.CAPACITOR CH 50V 39P	1	
C629,30		ECUM1C224ZFN	C.CAPACITOR CH 16V 0.22U	2	
C631		ECSF1CE336	T.CAPACITOR 16V 33U	1	
C632		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C634		ECUM1H390JCV	C.CAPACITOR CH 50V 39P	1	
C636		ECUM1H330JCV	C.CAPACITOR CH 50V 33P	1	
D301-03		MA110	DIODE	3	
D304		MA141WK	DIODE	1	
D401,02		MA110	DIODE	2	
D403		MA141WK	DIODE	1	
D404		MA728	DIODE	1	
D405		MA3047M	DIODE	1	
D406		MA334B	DIODE	1	
D407-11		MA110	DIODE	5	
D412		MA3051H	DIODE	1	
D413		MA110	DIODE	1	
D501		MA110	DIODE	1	
D502		MA141WA	DIODE	1	
D503		MA728	DIODE	1	
D505		MA110	DIODE	1	
FL301		ELB4E025	FILTER	1	
FL303		ELB4C025	FILTER	1	
FL304		ELB4B056	FILTER	1	
FL305		ELB4E026	FILTER	1	
FL306		ELB4D021	FILTER	1	
FL401		ELB4D010	FILTER	1	
FL402		ELB4B058	FILTER	1	
FL403		VLF0785	FILTER	1	
FP302		VJS2113	CONNECTOR (FEMALE)	1	
FP306		VJS2114	CONNECTOR (FEMALE)	1	
FP307		VJS2233	CONNECTOR	1	
IC302		VEFH09B	HIC	1	
IC306		VEFH11B	HIC	1	
IC307-13		TC4S66FT85R	IC	7	
IC401		AN2254FAP	IC	1	
IC402		UPD4094BG	IC	1	
IC403		MN67606AP	IC	1	
IC404		MN67607PAS	IC	1	
IC501		RC4558M	IC	1	
IC502		MC14052BF	IC	1	
IC503,04		LM324ML	IC	2	
IC505,06		LM358PS	IC	2	
IC601		AN2354S	IC	1	
IC602		UPC311G2-E2	IC	1	
IC603		MC14053BF	IC	1	
IC604		MN3828S	IC	1	
IC605		MC14053BF	IC	1	
IC608		TC4S66FT85R	IC	1	
L301,02		VLQ0319F150	COIL 15UH	2	
L303,04		VLQ0401K330	COIL 33UH	2	
L305		VLQ0163K470	COIL 47H	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
L306		VLQ0401K120	COIL 12UH	1	
L307		VLQ0163K151	COIL 150UH	1	
L401		ELJFA150KF	COIL	1	
L402		VLQ0401K330	COIL 33UH	1	
L403,04		ELJFA150KF	COIL	2	
L407		ELJFA150KF	COIL	1	
L408		VLQ0401K3R9	COIL 3.9UH	1	
L501		ELJFA150KF	COIL	1	
L601		ELJFA150KF	COIL	1	
L602,03		VLQ0319F150	COIL 15UH	2	
L604		ELJFA150KF	COIL	1	
Q301		2SD1819	TRANSISTOR	1	
Q302		2SC3931	TRANSISTOR	1	
Q303		2SA1532	TRANSISTOR	1	
Q304-06		2SK198	TRANSISTOR CHIP	3	
Q308		XN4501	TRANSISTOR-RESISTOR	1	
Q309		UN5112	TRANSISTOR	1	
Q313		UN5215	TRANSISTOR-RESISTOR	1	
Q314,15		2SB1218	TRANSISTOR	2	
Q317		2SA1532	TRANSISTOR	1	
Q318		UN5212	TRANSISTOR-RESISTOR	1	
Q320		2SK198	TRANSISTOR CHIP	1	
Q321		2SC3931	TRANSISTOR	1	
Q331,32		2SC3931	TRANSISTOR	2	
Q401		XN1215	TRANSISTOR	1	
Q402		XN4601	TRANSISTOR-RESISTOR	1	
Q404		UN5212	TRANSISTOR-RESISTOR	1	
Q405		XN4401	TRANSISTOR-RESISTOR	1	
Q406		XN4501	TRANSISTOR-RESISTOR	1	
Q409		XN4608	TRANSISTOR-RESISTOR	1	
Q410		UN5212	TRANSISTOR-RESISTOR	1	
Q411		UN5210	TRANSISTOR	1	
Q412		UN5212	TRANSISTOR-RESISTOR	1	
Q503		2SD1819	TRANSISTOR	1	
Q504		XN4501	TRANSISTOR-RESISTOR	1	
Q505		XN4601	TRANSISTOR-RESISTOR	1	
Q506,07		2SD1819	TRANSISTOR	2	
Q508		XN4401	TRANSISTOR-RESISTOR	1	
Q601		2SD1819	TRANSISTOR	1	
Q602-04		2SB1218	TRANSISTOR	3	
Q605		XN4501	TRANSISTOR-RESISTOR	1	
Q608		2SB1218	TRANSISTOR	1	
Q609		XN4401	TRANSISTOR-RESISTOR	1	
Q610		XN4501	TRANSISTOR-RESISTOR	1	
Q611,12		XN4401	TRANSISTOR-RESISTOR	2	
Q613		2SA1532	TRANSISTOR	1	
Q614-16		2SC3931	TRANSISTOR	3	
Q617		XN4501	TRANSISTOR-RESISTOR	1	
Q618		UN5112	TRANSISTOR	1	
Q619		UN5212	TRANSISTOR-RESISTOR	1	
Q620,21		XN1215	TRANSISTOR	2	
Q622		2SD1819	TRANSISTOR	1	
Q623		2SC3931	TRANSISTOR	1	
Q625		2SA1532	TRANSISTOR	1	
			RESISTORS		
R301-03		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	3	
R304		ERJ3GEYJ271	M.RESISTOR CH1/16W 270	1	
R305		ERJ3GEYJ560	M.RESISTOR CH1/16W 56	1	
R306		ERJ3GEYJ471	M.RESISTOR CH1/16W 470	1	
R307		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R308		ERJ3GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R310,11		ERJ3GEYJ154	M.RESISTOR CH1/16W 150K	2	
R313		ERJ3GEYJ105	M.RESISTOR CH1/16W 1M	1	
R314		ERJ3GEYJ224	M.RESISTOR CH1/16W 220K	1	
R315		ERJ3GEYJ560	M.RESISTOR CH1/16W 56	1	
R316		ERJ3GEYJ105	M.RESISTOR CH1/16W 1M	1	
R317		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	1	
R318		ERJ3GEYJ105	M.RESISTOR CH1/16W 1M	1	
R337		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R339		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R345		ERJ3GEYJ224	M.RESISTOR CH1/16W 220K	1	
R347		ERJ3GEYJ393	M.RESISTOR CH1/16W 39K	1	
R348		ERJ3GEYJ183	M.RESISTOR CH1/16W 18K	1	
R349		ERJ3GEYJ274	M.RESISTOR CH1/16W 270K	1	
R350		ERJ3GEYJ564	M.RESISTOR CH1/16W 560K	1	
R351		ERJ3GEYJ123	M.RESISTOR CH1/16W 12K	1	
R352,53		ERJ3GEYJ104	M.RESISTOR CH1/16W 100K	2	
R354		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R355,56		ERJ3GEYJ472	M.RESISTOR CH1/16W 4.7K	2	
R357,58		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	2	
R359,60		ERJ3GEYJ273	M.RESISTOR CH1/16W 27K	2	
R362		ERJ3GEYJ223	M.RESISTOR CH1/16W 22K	1	
R363		ERJ3GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R364-69		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	6	
R370		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	1	
R371		ERJ3GEYJ472	M.RESISTOR CH1/16W 4.7K	1	
R372		ERJ3GEYJ473	M.RESISTOR CH1/16W 47K	1	
R373		ERJ3GEYJ562	M.RESISTOR CH1/16W 5.6K	1	
R374		ERJ3GEYJ392	M.RESISTOR CH1/16W 3.9K	1	
R381,82		ERJ3GEYJ122	M.RESISTOR CH1/16W 1.2K	2	
R401		ERJ3GEYJ562	M.RESISTOR CH1/16W 5.6K	1	
R402		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R403		ERJ3GEYJ272	M.RESISTOR CH1/16W 2.7K	1	
R404,05		ERJ3GEYJ472	M.RESISTOR CH1/16W 4.7K	2	
R406		ERJ3GEYJ183	M.RESISTOR CH1/16W 18K	1	
R407		ERJ3GEYJ152	M.RESISTOR CH1/16W 1.5K	1	
R409		ERJ3GEY0R00	M.RESISTOR CH1/16W 0.00	1	
R410		ERJ3GEYJ104	M.RESISTOR CH1/16W 100K	1	
R412		ERJ3GEYJ681	M.RESISTOR CH1/16W 680	1	
R414		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	1	
R415		ERJ3GEYJ392	M.RESISTOR CH1/16W 3.9K	1	
R416		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R417		ERJ3GEYJ182	M.RESISTOR CH1/16W 1.8K	1	
R418		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	1	
R420		ERJ3GEY0R00	M.RESISTOR CH1/16W 0.00	1	
R421		ERJ3GEYJ681	M.RESISTOR CH1/16W 680	1	
R422		ERJ3GEYJ223	M.RESISTOR CH1/16W 22K	1	
R423		ERJ3GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R425		ERJ3GEYJ682	M.RESISTOR CH1/16W 6.8K	1	
R427		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R429		ERJ3GEYJ153	M.RESISTOR CH1/16W 15K	1	
R430		ERJ3GEYJ472	M.RESISTOR CH1/16W 4.7K	1	
R431		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	1	
R432		ERJ3GEYJ153	M.RESISTOR CH1/16W 15K	1	
R433		ERJ3GEYJ391	M.RESISTOR CH1/16W 390	1	
R434,35		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	2	
R436,37		ERJ3GEYJ222	M.RESISTOR CH1/16W 2.2K	2	
R438		ERJ3GEYJ151	M.RESISTOR CH1/16W 150	1	
R439		ERJ3GEYJ471	M.RESISTOR CH1/16W 470	1	
R440		ERJ3GEYJ392	M.RESISTOR CH1/16W 3.9K	1	
R441		ERJ3GEYJ182	M.RESISTOR CH1/16W 1.8K	1	
R442		ERJ3GEYJ472	M.RESISTOR CH1/16W 4.7K	1	
R445		ERJ3GEYJ472	M.RESISTOR CH1/16W 4.7K	1	
R449		ERJ3GEYJ331	M.RESISTOR CH1/16W 330	1	
R450		ERJ3GEYJ104	M.RESISTOR CH1/16W 100K	1	
R452,53		ERJ3GEYJ104	M.RESISTOR CH1/16W 100K	2	
R454		ERJ3GEYJ105	M.RESISTOR CH1/16W 1M	1	
R455		ERJ3GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R456		ERJ3GEYJ332	M.RESISTOR CH1/16W 3.3K	1	
R457		ERJ3GEYJ392	M.RESISTOR CH1/16W 3.9K	1	
R458		ERJ3GEYJ123	M.RESISTOR CH1/16W 12K	1	
R460		ERJ3GEYJ393	M.RESISTOR CH1/16W 39K	1	
R461		ERJ3GEYJ473	M.RESISTOR CH1/16W 47K	1	
R462		ERJ3GEYJ683	M.RESISTOR CH1/16W 68K	1	
R463,64		ERJ3GEY0R00	M.RESISTOR CH1/16W 0.00	2	
R465,66		ERJ3GEYJ182	M.RESISTOR CH1/16W 1.8K	2	
R467,68		ERJ3GEYJ222	M.RESISTOR CH1/16W 2.2K	2	
R470		ERJ3GEYJ563	M.RESISTOR CH1/16W 56K	1	
R471		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R472		ERJ3GEYJ472	M.RESISTOR CH1/16W 4.7K	1	
R474		ERJ3GEYJ273	M.RESISTOR CH1/16W 27K	1	
R475		ERJ3GEYJ473	M.RESISTOR CH1/16W 47K	1	
R476		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	1	
R477		ERJ3GEYJ472	M.RESISTOR CH1/16W 4.7K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R478-80		ERJ3GEY0R00	M.RESISTOR CH1/16W 0.00	3	
R481		ERJ3GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R483		ERJ3GEYJ473	M.RESISTOR CH1/16W 47K	1	
R484		ERJ6GMYJ333	M.RESISTOR CH 1/30W 33K	1	
R485,86		ERJ3GEYJ333	M.RESISTOR CH1/16W 33K	2	
R487		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	1	
R488		ERJ3GEYJ392	M.RESISTOR CH1/16W 3.9K	1	
R489		ERJ3GEYJ333	M.RESISTOR CH1/16W 33K	1	
R490		ERJ3GEYJ682	M.RESISTOR CH1/16W 6.8K	1	
R492		ERJ3GEYJ123	M.RESISTOR CH1/16W 12K	1	
R493		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	1	
R495		ERJ3GEYJ392	M.RESISTOR CH1/16W 3.9K	1	
R501		ERJ3GEYJ123	M.RESISTOR CH1/16W 12K	1	
R502		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R503		ERJ3GEYJ123	M.RESISTOR CH1/16W 12K	1	
R504		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R505		ERJ3GEYJ183	M.RESISTOR CH1/16W 18K	1	
R506		ERJ3GEYJ124	M.RESISTOR CH1/16W 120K	1	
R507,08		ERJ3GEYJ223	M.RESISTOR CH1/16W 22K	2	
R509		ERJ3GEYJ224	M.RESISTOR CH1/16W 220K	1	
R510		ERJ3GEYJ333	M.RESISTOR CH1/16W 33K	1	
R511		ERJ3GEYJ824	M.RESISTOR CH1/16W 820K	1	
R512		ERJ3GEYJ224	M.RESISTOR CH1/16W 220K	1	
R513		ERJ3GEYJ152	M.RESISTOR CH1/16W 1.5K	1	
R514		ERJ3GEYJ104	M.RESISTOR CH1/16W 100K	1	
R515		ERJ3GEYJ224	M.RESISTOR CH1/16W 220K	1	
R516,17		ERJ3GEYJ682	M.RESISTOR CH1/16W 6.8K	2	
R518,19		ERJ3GEYJ104	M.RESISTOR CH1/16W 100K	2	
R520		ERJ3GEYJ334	M.RESISTOR CH1/16W 330K	1	
R521,22		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	2	
R523		ERJ3GEYJ104	M.RESISTOR CH1/16W 100K	1	
R524		ERJ3GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R525		ERJ3GEYJ104	M.RESISTOR CH1/16W 100K	1	
R526		ERJ3GEYJ334	M.RESISTOR CH1/16W 330K	1	
R527		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	1	
R534		ERJ3GEYJ224	M.RESISTOR CH1/16W 220K	1	
R535		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	1	
R536		ERJ3GEYJ104	M.RESISTOR CH1/16W 100K	1	
R537,38		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	2	
R539,40		ERJ3GEYJ104	M.RESISTOR CH1/16W 100K	2	
R541		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	1	
R542		ERJ3GEYJ224	M.RESISTOR CH1/16W 220K	1	
R543		ERJ3GEYJ823	M.RESISTOR CH1/16W 82K	1	
R544,45		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	2	
R546		ERJ3GEYJ333	M.RESISTOR CH1/16W 33K	1	
R547		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	1	
R548		ERJ3GEYJ153	M.RESISTOR CH1/16W 15K	1	
R549		ERJ3GEYJ473	M.RESISTOR CH1/16W 47K	1	
R550		ERJ3GEYJ153	M.RESISTOR CH1/16W 15K	1	
R551		ERJ3GEYJ333	M.RESISTOR CH1/16W 33K	1	
R552		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	1	
R553		ERJ3GEYJ153	M.RESISTOR CH1/16W 15K	1	
R554		ERJ3GEYJ473	M.RESISTOR CH1/16W 47K	1	
R555		ERJ3GEYJ153	M.RESISTOR CH1/16W 15K	1	
R556		ERJ3GEYJ224	M.RESISTOR CH1/16W 220K	1	
R557,58		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	2	
R559		ERJ3GEYJ472	M.RESISTOR CH1/16W 4.7K	1	
R560		ERJ3GEYJ152	M.RESISTOR CH1/16W 1.5K	1	
R561		ERJ3GEYJ473	M.RESISTOR CH1/16W 47K	1	
R562		ERJ3GEYJ273	M.RESISTOR CH1/16W 27K	1	
R563		ERJ3GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R564		ERJ3GEYJ683	M.RESISTOR CH1/16W 68K	1	
R566		ERJ3GEYJ392	M.RESISTOR CH1/16W 3.9K	1	
R567		ERJ3GEYJ823	M.RESISTOR CH1/16W 82K	1	
R568		ERJ3GEYJ473	M.RESISTOR CH1/16W 47K	1	
R569		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	1	
R570		ERJ3GEYJ564	M.RESISTOR CH1/16W 560K	1	
R571-73		ERJ3GEYJ154	M.RESISTOR CH1/16W 150K	3	
R574		ERJ3GEYJ182	M.RESISTOR CH1/16W 1.8K	1	
R575		ERJ3GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R576		ERJ3GEYJ273	M.RESISTOR CH1/16W 27K	1	
R601		ERJ3GEYJ390	M.RESISTOR CH1/16W 39	1	
R602		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R603		ERJ3GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R604		ERJ3GEYJ153	M.RESISTOR CH1/16W 15K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R605		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R606-09		ERJ3GEYJ392	M.RESISTOR CH1/16W 3.9K	4	
R610,11		ERJ3GEYJ272	M.RESISTOR CH1/16W 2.7K	2	
R613		ERJ3GEYJ184	M.RESISTOR CH1/16W 180K	1	
R614		ERJ3GEYJ223	M.RESISTOR CH1/16W 22K	1	
R616		ERJ3GEYJ104	M.RESISTOR CH1/16W 100K	1	
R617		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	1	
R619		ERJ3GEYJ101	M.RESISTOR CH1/16W 100	1	
R620		ERJ3GEYJ331	M.RESISTOR CH1/16W 330	1	
R621		ERJ3GEYJ153	M.RESISTOR CH1/16W 15K	1	
R622		ERJ3GEY0R00	M.RESISTOR CH1/16W 0.00	1	
R628		ERJ3GEYJ104	M.RESISTOR CH1/16W 100K	1	
R630		ERJ3GEYJ562	M.RESISTOR CH1/16W 5.6K	1	
R631		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	1	
R632-34		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	3	
R635		ERJ3GEYJ822	M.RESISTOR CH1/16W 8.2K	1	
R637		ERJ3GEYJ822	M.RESISTOR CH1/16W 8.2K	1	
R638,39		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	2	
R640		ERJ3GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R641		ERJ3GEYJ182	M.RESISTOR CH1/16W 1.8K	1	
R642		ERJ3GEYJ472	M.RESISTOR CH1/16W 4.7K	1	
R643		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R644		ERJ3GEYJ182	M.RESISTOR CH1/16W 1.8K	1	
R645		ERJ3GEYJ472	M.RESISTOR CH1/16W 4.7K	1	
R646		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R647,48		ERJ3GEYJ222	M.RESISTOR CH1/16W 2.2K	2	
R649		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	1	
R650		ERJ3GEYJ472	M.RESISTOR CH1/16W 4.7K	1	
R651		ERJ3GEYJ332	M.RESISTOR CH1/16W 3.3K	1	
R652		ERJ3GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R653		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R654,55		ERJ3GEYJ222	M.RESISTOR CH1/16W 2.2K	2	
R656		ERJ3GEYJ332	M.RESISTOR CH1/16W 3.3K	1	
R657,58		ERJ3GEYJ222	M.RESISTOR CH1/16W 2.2K	2	
R659		ERJ3GEYJ332	M.RESISTOR CH1/16W 3.3K	1	
R660		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R661		ERJ3GEYJ472	M.RESISTOR CH1/16W 4.7K	1	
R662		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R663		ERJ3GEYJ105	M.RESISTOR CH1/16W 1M	1	
R664		ERJ3GEYJ684	M.RESISTOR CH1/16W 680K	1	
R676,77		ERJ3GEYJ561	M.RESISTOR CH1/16W 560	2	
R678		ERJ3GEYJ473	M.RESISTOR CH1/16W 47K	1	
R681-84		ERJ3GEYJ822	M.RESISTOR CH1/16W 8.2K	4	
R685		ERJ3GEYJ332	M.RESISTOR CH1/16W 3.3K	1	
VR301		EVM7JSX30B14	V.RESISTOR 10K	1	
VR304		EVM7JSX30B54	V.RESISTOR 50K	1	
VR305-10		EVM7JSX30B24	V.RESISTOR 20K	6	
VR311,12		EVM7JSX30B14	V.RESISTOR 10K	2	
VR313,14		EVM7JSX30B53	V.RESISTOR 5K	2	
VR315,16		EVM7JSX30B13	V.RESISTOR 1K	2	
VR317		EVM7JSX30B14	V.RESISTOR 10K	1	
VR322		EVM7JSX30B54	V.RESISTOR 50K	1	
VR327		EVM7JSX30B14	V.RESISTOR 10K	1	
VR329		EVM7JSX30B14	V.RESISTOR 10K	1	
VR331		EVM7JSX30B14	V.RESISTOR 10K	1	
VR332		EVM7JSX30B24	V.RESISTOR 20K	1	
VR333		EVM7JSX30B53	V.RESISTOR 5K	1	
VR334		EVM7JSX30B15	V.RESISTOR 100K	1	
VR523		EVM7JSX30B54	V.RESISTOR 50K	1	
VR525,26		EVM7JSX30B14	V.RESISTOR 10K	2	
VR527		EVM7JSX30B54	V.RESISTOR 50K	1	
VR528,29		EVM7JSX30B14	V.RESISTOR 10K	2	
VR530-32		EVM7JSX30B53	V.RESISTOR 5K	3	
VR533		EVM7JSX30B24	V.RESISTOR 20K	1	
X401		VSX0386	CRYSTAL OSCILLATOR	1	
X402		VSX0353	CRYSTAL OSCILLATOR	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
	■	VEP26061A	AWT C.B.A.		(NLA)
B601		VJP2770B006	CONNECTOR (MALE)	1	
			CAPACITORS		
C651		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
IC651		M51096AU	IC	1	
			RESISTORS		
R686		ERJ6GMYF123	M.RESISTOR CH1/10W 12K	1	
R687		ERJ6GMYF822	M.RESISTOR CH1/10W 8.2K	1	
R688		ERJ6GMYF124	M.RESISTOR CH1/10W 120K	1	
R689		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R690		ERJ3GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R693		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
			MISCELLANEOUS		
		VSC3118	SHIELD BOX	1	
	■	VEP21095B	DIGITAL MEMORY C.B.A.		(NLA)
B101		VJS2770A006T	CONNECTOR (FEMALE)	1	
B102,03		VJP2771A011	CONNECTOR (MALE)	2	
			CAPACITORS		
C101		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C102		ECSF1AE106	T.CAPACITOR 10V 10U	1	
C104,05		ECUM1H331JCV	C.CAPACITOR CH 50V 330P	2	
C106		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C107		ECUM1H560JCV	C.CAPACITOR CH 50V 56P	1	
C108		ECEA0JKA221	E.CAPACITOR 6.3V 220U	1	
C109		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C110-13		ECUM1H222KBV	C.CAPACITOR CH 50V 2200P	4	
C114		ECUM1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C115		ECST1AY225Z	T.CAPACITOR 10V 2.2U	1	
C116		ECSF1AE106	T.CAPACITOR 10V 10U	1	
C117		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C120		ECRJA020E12	TRIMER	1	
C121		ECUM1H680JCV	C.CAPACITOR CH 50V 68P	1	
C122		ECSF1AE106	T.CAPACITOR 10V 10U	1	
C123		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C124		ECUM1H272KBV	C.CAPACITOR CH 50V 2700U	1	
C130,31		ECUM1H101JCV	C.CAPACITOR CH 50V 100P	2	
C132		ECUM1C224ZFN	C.CAPACITOR CH 16V 0.22U	1	
D102		MA110	DIODE	1	
D103		MA334B	DIODE	1	
IC101		S8052ANBNE	IC	1	
IC102		MN1551VFM	IC	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
IC103		UPD43256AGU	IC	1	
IC104		MN53020VSN	IC	1	
IC105		S8054ALBLM	IC	1	
IC109		TC4S66FT85R	IC	1	
L102		VLQ0319K331	COIL 330UH	1	
L104-07		VLQ0401K4R7	COIL 4.7UH	4	
L108		VLQ0401K5R6	COIL 5.6UH	1	
Q101		UN5214	TRANSISTOR-RESISTOR	1	
Q102		UN5213	TRANSISTOR	1	
Q103		UN5214	TRANSISTOR-RESISTOR	1	
Q108		UN5210	TRANSISTOR	1	
			RESISTORS		
R101		ERJ3GEYJ332	M.RESISTOR CH1/16W 3.3K	1	
R102		ERJ3GEYJ333	M.RESISTOR CH1/16W 33K	1	
R104		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	1	
R106		ERJ3GEYJ104	M.RESISTOR CH1/16W 100K	1	
R107,08		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	2	
R110-13		ERJ3GEYJ100	M.RESISTOR CH1/16W 10	4	
R114		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R115		ERJ3GEYJ105	M.RESISTOR CH1/16W 1M	1	
R116		ERJ3GEYJ153	M.RESISTOR CH1/16W 15K	1	
R121		ERJ3GEYJ332	M.RESISTOR CH1/16W 3.3K	1	
R122		ERJ3GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R123		ERJ3GEYJ333	M.RESISTOR CH1/16W 33K	1	
R124		ERJ3GEYJ562	M.RESISTOR CH1/16W 5.6K	1	
R125		ERJ3GEYJ332	M.RESISTOR CH1/16W 3.3K	1	
R126		ERJ3GEYJ123	M.RESISTOR CH1/16W 12K	1	
R127		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R128		ERJ3GEYJ104	M.RESISTOR CH1/16W 100K	1	
R129		ERJ3GEYJ472	M.RESISTOR CH1/16W 4.7K	1	
R130-35		ERJ3GEYJ104	M.RESISTOR CH1/16W 100K	6	
R136		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	1	
R137,38		ERJ3GEYJ104	M.RESISTOR CH1/16W 100K	2	
R149		ERJ3GEYJ470	M.RESISTOR CH1/16W 47	1	
R150		ERJ3GEYJ473	M.RESISTOR CH1/16W 47K	1	
X101		VSX0379	CRYSTAL OSCILLATOR	1	
X102		VSX0385	CRYSTAL OSCILLATOR	1	
	■	VEP22090A	CCD DRIVE C.B.A.		(NLA)
B201		VJP2803	CONNECTOR (MALE)	1	
			CAPACITORS		
C201-03		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	3	
C204,05		ECUM1H330JCV	C.CAPACITOR CH 50V 33P	2	
C206		ECUM1H150JCV	C.CAPACITOR CH 50V 15P	1	
C207		ECUM1H330JCV	C.CAPACITOR CH 50V 33P	1	
C208		ECUM1H100DCV	C.CAPACITOR CH 50V 10P	1	
C209		ECUM1H101JCV	C.CAPACITOR CH 50V 100P	1	
C210-19		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	10	
C220		ECSF1AE336B1	T.CAPACITOR 10V 33U	1	
C221		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C222,23		ECUM1H150JCV	C.CAPACITOR CH 50V 15P	2	
C224		ECUM1H220JCV	C.CAPACITOR CH 50V 22P	1	
C225		ECSF1AE106	T.CAPACITOR 10V 10U	1	
C226		ECEA1AKA101	E.CAPACITOR 10V 100U	1	
C227		ECSF1AE106	T.CAPACITOR 10V 10U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C228		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C229		ECEA1HKS010	E.CAPACITOR 50V 1U	1	
C230		ECEV1HA010	E.CAPACITOR 50V 1U	1	
C231		ECEV0JA220	E.CAPACITOR 6.3V 22U	1	
C232		ECEV1CA220P	E.CAPACITOR 16V 22U	1	
C233		ECUM1E104ZFM	C.CAPACITOR CH 25V 0.1U	1	
C234		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C235		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C236		ECSF1AE106	T.CAPACITOR 10V 10U	1	
C237		ECUM1H150JCV	C.CAPACITOR CH 50V 15P	1	
C238		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C239		ECUM1E473ZFN	C.CAPACITOR CH 25V 0.047U	1	
C240		ECSF1CE226B	T.CAPACITOR 16V 22U	1	
C241,42		ECUM1H150JCV	C.CAPACITOR CH 50V 15P	2	
C243		ECEA1EKS100I	E.CAPACITOR 25V 10U	1	
C244		ECEV1CA100	E.CAPACITOR 16V 10U	1	
C245		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C246		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C247		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C248,49		ECUM1E473ZFN	C.CAPACITOR CH 25V 0.047U	2	
D201		MA110	DIODE	1	
D202		MA728	DIODE	1	
D203		MA110	DIODE	1	
FL201		ELB5B028	FILTER	1	
FP201		VJS2143	CONNECTOR (FEMALE)	1	
IC201		MN5127-2	IC	1	
IC202,03		MN3107CS	IC	2	
IC204		AN2012S	IC	1	
L201-05		VLQ0291	COIL	5	
L206-10		ELJFA150KF	COIL	5	
Q201		2SD1819	TRANSISTOR	1	
Q202		2SC3930	TRANSISTOR	1	
Q203-05		2SD1819	TRANSISTOR	3	
			RESISTORS		
R201,02		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	2	
R203		ERJ3GEYJ221	M.RESISTOR CH1/16W 220	1	
R204		ERJ3GEYJ101	M.RESISTOR CH1/16W 100	1	
R205		ERJ3GEYJ221	M.RESISTOR CH1/16W 220	1	
R206		ERJ3GEYJ223	M.RESISTOR CH1/16W 22K	1	
R207		ERJ3GEYJ472	M.RESISTOR CH1/16W 4.7K	1	
R208		ERJ3GEYJ331	M.RESISTOR CH1/16W 330	1	
R209-11		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	3	
R212,13		ERJ3GEY0R00	M.RESISTOR CH1/16W 0.00	2	
R214,15		ERJ3GEYJ101	M.RESISTOR CH1/16W 100	2	
R216		ERJ3GEYJ331	M.RESISTOR CH1/16W 330	1	
R217,18		ERJ3GEYJ101	M.RESISTOR CH1/16W 100	2	
R219		ERJ3GEYJ273	M.RESISTOR CH1/16W 27K	1	
R220		ERJ3GEYJ105	M.RESISTOR CH1/16W 1M	1	
R221		ERJ3GEYJ332	M.RESISTOR CH1/16W 3.3K	1	
R222		ERJ3GEYJ224	M.RESISTOR CH1/16W 220K	1	
R223		ERJ3GEYJ682	M.RESISTOR CH1/16W 6.8K	1	
R224		ERJ3GEYJ470	M.RESISTOR CH1/16W 47	1	
R225		ERJ3GEYJ332	M.RESISTOR CH1/16W 3.3K	1	
R226		ERJ3GEYJ220	M.RESISTOR CH1/16W 22	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R227		ERJ3GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R228		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	1	
R229,30		ERJ3GEYJ330	M.RESISTOR CH1/16W 33	2	
R231		ERJ3GEYJ272	M.RESISTOR CH1/16W 2.7K	1	
R232		ERJ3GEYJ273	M.RESISTOR CH1/16W 27K	1	
R233		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	1	
R234		ERJ3GEYJ223	M.RESISTOR CH1/16W 22K	1	
R235-37		ERJ3GEYJ333	M.RESISTOR CH1/16W 33K	3	
R238		ERJ3GEYJ223	M.RESISTOR CH1/16W 22K	1	
R239		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	1	
VR201		EVM7JSX30B25	V.RESISTOR 200K	1	
VR202		EVM7JSX30B54	V.RESISTOR 50K	1	
VR203		EVM7JSX30B24	V.RESISTOR 20K	1	
	■	VEP06590B	LCD C.B.A.		(NLA)
			CAPACITORS		
C6201		ECST1AC106Z	T.CAPACITOR 10V 10U	1	
C6202		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C6203		ECUM1H220JCV	C.CAPACITOR CH 50V 22P	1	
C6204		ECRJA030E12	V.CAPACITOR	1	
C6205		ECUM1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C6206		ECST1AD336Z	T.CAPACITOR 10V 33U	1	
C6207		ECST1AC106Z	T.CAPACITOR 10V 10U	1	
C6208,09		ECUM1H101JV	C.CAPACITOR CH 50V 100P	2	
C6210,11		ECUM1C104ZFV	C.CAPACITOR CH 16V 0.1U	2	
C6213		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C6214		ECUM1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C6215		ECUM1H101JV	C.CAPACITOR CH 50V 100P	1	
C6216,17		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
D6205		DAN202U	DIODE	1	
D6206-08		DAP202U	DIODE	3	
D6209,10		MA141K	DIODE	2	
D6211		DAP202U	DIODE	1	
D6212		MA141K	DIODE	1	
D6214		MA141K	DIODE	1	
D6215,16		MA3056	DIODE	2	
IC6201		UPD75308G524	IC	1	
IC6202		S81250HGRD	IC	1	
IC6203		S8054ALBLM	IC	1	
IC6204		S8052ALOLG	IC	1	
L6201		VLQ0319K101	COIL 100UH	1	
LCD		VSL0207	DISPLAY TUBE	1	
P6201		VJS2710B026	CONNECTOR	1	
P6202		VJS2710B009	CONNECTOR	1	
P6203		VJP2261	CONNECTOR (MALE)	1	
P6204		VJP2260	CONNECTOR (MALE)	1	
Q6201,02		2SD1819	TRANSISTOR	2	
Q6203		2SK198	TRANSISTOR CHIP	1	
Q6204		XN1401	TRANSISTOR	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
Q6205		GA1L4M	TRANSISTOR-RESISTOR	1	
Q6206		GA1L4L-T1	TRANSISTOR-RESISTOR	1	
			RESISTORS		
R6201-03		ERJ3GEYJ223	M.RESISTOR CH1/16W 22K	3	
R6204-07		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	4	
R6208		ERJ3GEY0R00	M.RESISTOR CH1/16W 0.00	1	
R6209-12		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	4	
R6213		ERJ3GEYJ334	M.RESISTOR CH1/16W 330K	1	
R6214		ERJ3GEYJ100	M.RESISTOR CH1/16W 10	1	
R6215		ERJ3GEYJ472	M.RESISTOR CH1/16W 4.7K	1	
R6216		ERJ3GEYJ563	M.RESISTOR CH1/16W 56K	1	
R6217		ERJ3GEYJ104	M.RESISTOR CH1/16W 100K	1	
R6218		ERJ3GEYJ471	M.RESISTOR CH1/16W 470	1	
R6219		ERJ3GEYJ104	M.RESISTOR CH1/16W 100K	1	
R6220		ERJ3GEYJ105	M.RESISTOR CH1/16W 1M	1	
R6221		ERJ3GEYJ474	M.RESISTOR CH1/16W 470K	1	
R6222		ERJ3GEYJ333	M.RESISTOR CH1/16W 33K	1	
R6223		ERJ3GEYJ225	M.RESISTOR CH1/16W 2.2M	1	
R6224		ERJ3GEYJ223	M.RESISTOR CH1/16W 22K	1	
R6225		ERJ3GEYJ225	M.RESISTOR CH1/16W 2.2M	1	
R6226		ERJ3GEYJ474	M.RESISTOR CH1/16W 470K	1	
R6227		ERJ3GEYJ104	M.RESISTOR CH1/16W 100K	1	
R6228		ERJ3GEYJ472	M.RESISTOR CH1/16W 4.7K	1	
R6229		ERJ3GEYJ183	M.RESISTOR CH1/16W 18K	1	
R6230-37		ERJ3GEYJ224	M.RESISTOR CH1/16W 220K	8	
R6238		ERJ3GEYJ183	M.RESISTOR CH1/16W 18K	1	
R6239,40		ERJ6GMYJ683	M.RESISTOR CH 1/10W 68K	2	
R6241		ERJ3GEYJ224	M.RESISTOR CH1/16W 220K	1	
R6242,43		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	2	
R6244,45		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	2	
R6246		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R6247		ERJ3GEYJ393	M.RESISTOR CH1/16W 39K	1	
R6302		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
SW6201-04		EVQQSU04W	SWITCH	4	
SW6205		EVQQFV02K	SWITCH	1	
SW6206		EVQQSU04W	SWITCH	1	
SW6207-09		EVQQFV02K	SWITCH	3	
SW6210		EVQQSU04W	SWITCH	1	
X6201		VSX0299	CRYSTAL OSCILLATOR	1	
X6202		VSX0094	CRYSTAL OSCILLATOR	1	
	■	VEP28029A	E.V.F. C.B.A.		(NLA)
			CAPACITORS		
C801		ECUM1E104JBM	C.CAPACITOR CH 25V 0.1U	1	
C802		ECEA1CKE101	E.CAPACITOR 16V 100U	1	
C803		ECUM1H121JCV	C.CAPACITOR CH 50V 120P	1	
C804		ECUM1C224ZFN	C.CAPACITOR CH 16V 0.22U	1	
C805		ECEA1CKE101	E.CAPACITOR 16V 100U	1	
C806		ECUM1E223KBN	C.CAPACITOR CH 25V 0.023U	1	
C807		ECEA1HKS010	E.CAPACITOR 50V 1U	1	
C808		ECUM1C105ZFN	C.CAPACITOR CH 16V 0.1U	1	
C809		ECEA1AF470	E.CAPACITOR 10V 47U	1	
C810		ECQP1302JZ	P.CAPACITOR 100V 3000P	1	
C811		ECEA1CKE101	E.CAPACITOR 16V 100U	1	
C812		ECUM1H680JCV	C.CAPACITOR CH 50V 68P	1	
C813		VCK0088K151T	C.CAPACITOR 1KV 150P	1	
C814		ECEA1HKS010	E.CAPACITOR 50V 1U	1	
C815		VCK0058K331	C.CAPACITOR 500V 330P	1	
C816		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
D801		MA141K	DIODE	1	
D802		SFPL-52	DIODE	1	
D803		ERA34-10	DIODE	1	
D861		BR1102W	DIODE	1	
IC801		AN2514S	IC	1	
L801		VLQ0319K390	COIL 38UH	1	
L802		ELH5L201D	COIL	1	
P801		VJP1599T	CONNECTOR (MALE)	1	
P802		VJP1597T	CONNECTOR (MALE)	1	
P803		VJP1229T	CONNECTOR (MALE)	1	
P804		VJP1596T	CONNECTOR	1	
Q801		2SB1218	TRANSISTOR	1	
Q802		2SD968A	TRANSISTOR	1	
Q803		2SA1532	TRANSISTOR	1	
			RESISTORS		
R801		ERJ6ENF4422	M.RESISTOR CH 1/10W 44.2K	1	
R802		ERJ6GEYK3R9	M.RESISTOR CH 1/10W 3.9	1	
R805		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R807		ERJ3GEYK4R7	M.RESISTOR CH 1/16W 4.7	1	
R808		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R809		ERJ3GEYJ474	M.RESISTOR CH 1/16W 470K	1	
R810		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R811,12		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	2	
R813		ERJ3GEYJ391	M.RESISTOR CH 1/16W 390	1	
R814		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R815		ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1	
R816		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R817		ERJ3GEYJ242	M.RESISTOR CH 1/16W 2.4K	1	
R818		ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R819-21		ERJ6GEYJ335	M.RESISTOR CH 1/10W 3.3M	3	
R825		VSF0015A025	FUSE	1	
R861		ERJ3GEYJ271	M.RESISTOR CH 1/16W 270	1	
T801		ETF09L2B	TRANSFERMER	1	
VR801		EVM7JSX30BE2	V.RESISTOR 220K	1	
VR802		EVM7JSX30B54	V.RESISTOR 50K	1	
VR803		EVMLPNA00BV6	V.RESISTOR 5.6M	1	
VR804		EVMLPNA00BE6	V.RESISTOR 2.2M	1	
	■	VEP06675A	MAIN C.B.A.		(NLA)
			CAPACITORS		
C1001		ECUM1H151JCN	C.CAPACITOR CH 50V 150P	1	
C1002		ECUM1H471KBV	C.CAPACITOR CH 50V 470P	1	
C1003		ECUM1H151JV	C.CAPACITOR CH 50V 150P	1	
C1004		ECST1CY105Z	T.CAPACITOR 16V 1U	1	
C1005		ECUM1C474ZFM	C.CAPACITOR CH 16V 0.47U	1	
C1006		ECUM1H472KBV	C.CAPACITOR CH 50V 4700P	1	
C1008		ECUM1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C1011		ECEA1CU331	E.CAPACITOR 16V 330U	1	
C1015		ECEA05KJ471	E.CAPACITOR 470U	1	
C1016		ECEA05KJ221	E.CAPACITOR 220U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C1017		ECUM1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C1019		ECSF1CE476	T.CAPACITOR 16V 47U	1	
C1020		ECEA05KJ221	E.CAPACITOR 220U	1	
C1021		ECEA0JKS101	E.CAPACITOR 6.3V 100U	1	
C1022		ECUM1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C1023		ECEA1AKJ121	E.CAPACITOR 10V 120U	1	
C1026		ECUM1H822KBV	C.CAPACITOR CH 50V 8200P	1	
C1027		ECUM1H272KBV	C.CAPACITOR CH 50V 2700U	1	
C1030,31		ECEA1EKK4R7L	E.CAPACITOR 25V 4.7U	2	
C1032		ECEA1ASE101	E.CAPACITOR 10V 100U	1	
C1033		ECEA1AU331	E.CAPACITOR 10V 330U	1	
C1034,35		ECEA1AKS330	E.CAPACITOR 10V 33U	2	
C1036		ECUM1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C1037		ECEA1HKKR47L	E.CAPACITOR 50V 0.47U	1	
C1038		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C1040		ECEA1ASE121	E.CAPACITOR 10V 120U	1	
C1041		ECEA1CSE820	E.CAPACITOR 16V 82U	1	
C1042		ECSF1CE476	T.CAPACITOR 16V 47U	1	
C2001		ECUM1H472KBN	C.CAPACITOR CH 50V 4700P	1	
C2002		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C2003		ECUM1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C2004		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C2005		ECEA1HKK010L	E.CAPACITOR 50V 1U	1	
C2006		ECEA1CKK100	E.CAPACITOR 16V 10U	1	
C2007		ECEA1ASN100	E.CAPACITOR 10V 10U	1	
C2008		ECUM1H223ZFN	C.CAPACITOR CH 50V 0.022U	1	
C2009		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C2010		ECUM1H561KBV	C.CAPACITOR CH 50V 560P	1	
C2011		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C2012,13		ECEA1HSN010	E.CAPACITOR 50V 1U	2	
C2014,15		ECEA0JKA470	E.CAPACITOR 6.3V 47U	2	
C2016		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C2017		ECUM1C105KBN	C.CAPACITOR CH 16V 1U	1	
C2018		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C2019		ECUM1H471KBV	C.CAPACITOR CH 50V 470P	1	
C2020		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C2021		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C2022		ECUM1H472KBV	C.CAPACITOR CH 50V 4700P	1	
C2023		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C2024		ECQV1H273JZ	P.CAPACITOR 50V 0.027U	1	
C2025		ECUM1C105KBN	C.CAPACITOR CH 16V 1U	1	
C2026		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	1	
C2027,28		ECUM1H220JCV	C.CAPACITOR CH 50V 22P	2	
C2029		ECUM1C473ZFV	C.CAPACITOR CH 16V 0.047U	1	
C2030		ECUM1H472KBV	C.CAPACITOR CH 50V 4700P	1	
C2031		ECUM1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C2032		ECUM1C474ZFM	C.CAPACITOR CH 16V 0.47U	1	
C2035		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C2036		ECUM1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C2040		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C2042		ECEA1AKA330L	E.CAPACITOR 10V 33U	1	
C2043		ECUM1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C2044		ECUM1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C2045,46		ECEA1CKE101	E.CAPACITOR 16V 100U	2	
C2047		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C2049		ECUM1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C2050		ECUM1H101JV	C.CAPACITOR CH 50V 100P	1	
C2051		ECUM1H183ZFV	C.CAPACITOR CH 50V 0.018U	1	
C3201		ECUM1H561KBV	C.CAPACITOR CH 50V 560P	1	
C3202		ECUM1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C3501		ECEA1ASJ101	E.CAPACITOR 10V 100U	1	
C3502-04		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	3	
C3505		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C3506		ECUM1H270JCV	C.CAPACITOR CH 50V 27P	1	
C3507		ECUM1H820JCV	C.CAPACITOR CH 50V 82P	1	
C3508		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C3509		ECUM1H471JV	C.CAPACITOR CH 50V 470P	1	
C3510		ECUM1H470JCV	C.CAPACITOR CH 50V 47P	1	
C3511		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C3512-14		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	3	
C3515		ECUM1H560JCV	C.CAPACITOR CH 50V 56P	1	
C3516		ECUM1H220JCV	C.CAPACITOR CH 50V 22P	1	
C3517		ECUM1H180JCV	C.CAPACITOR CH 50V 18P	1	
C3520		ECUM1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C3523,24		ECUM1H222KBN	C.CAPACITOR CH 50V 2200P	2	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C3525		ECUM1H030CCV	C.CAPACITOR CH 50V 3P	1	
C3526,27		ECUM1H222KBN	C.CAPACITOR CH 50V 2200P	2	
C3528		ECUM1E105ZFN	C.CAPACITOR CH 25V 1U	1	
C3599		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C4001		ECEA1AKA101	E.CAPACITOR 10V 100U	1	
C4002		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C4003		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C4004		ECEA1CKK100	E.CAPACITOR 16V 10U	1	
C4005		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C4006		ECUM1H682KBN	C.CAPACITOR CH 50V 6800P	1	
C4007		ECEA0JKS220	E.CAPACITOR 6.3V 22U	1	
C4008		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C4009		ECUM1H822KBN	C.CAPACITOR CH 50V 8200P	1	
C4010		ECUM1H123KBN	C.CAPACITOR CH 50V 0.012U	1	
C4011		ECUM1H153KBN	C.CAPACITOR CH 50V 0.015U	1	
C4012		ECEA1HKK010L	E.CAPACITOR 50V 1U	1	
C4013		ECUM1H222KBV	C.CAPACITOR CH 50V 2200P	1	
C4014		ECUM1H122KBV	C.CAPACITOR CH 50V 1200P	1	
C4015		ECUM1H151JV	C.CAPACITOR CH 50V 150P	1	
C4016		ECEA1AKS330	E.CAPACITOR 10V 33U	1	
C4017		ECEA1HKKR47L	E.CAPACITOR 50V 0.47U	1	
C4018		ECUM1H333KBN	C.CAPACITOR CH 50V 0.033U	1	
C4019		ECEA1HSN010	E.CAPACITOR 50V 1U	1	
C4020		ECEA0JKS220	E.CAPACITOR 6.3V 22U	1	
C4021		ECEA1HKK010L	E.CAPACITOR 50V 1U	1	
C4022		ECUM1H271KBV	C.CAPACITOR CH 50V 270P	1	
C4023		ECEA1CKA220	E.CAPACITOR 16V 22U	1	
C4024		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C4025		ECUM1H153KBN	C.CAPACITOR CH 50V 0.015U	1	
C4026		ECQP1562JZ	P.CAPACITOR 100V 5600P	1	
C4027		ECUM1H391KBV	C.CAPACITOR CH 50V 390P	1	
C4028		ECEA1CKK100	E.CAPACITOR 16V 10U	1	
C4029		ECUM1H153KBN	C.CAPACITOR CH 50V 0.015U	1	
C4030		ECUM1H472KBV	C.CAPACITOR CH 50V 4700P	1	
C4031		ECQV1H563JZ	P.CAPACITOR 50V 0.056U	1	
C4032		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C4033		ECEA1AKA330L	E.CAPACITOR 10V 33U	1	
C4034		ECEA1HKK010L	E.CAPACITOR 50V 1U	1	
C6001		ECEA0JSJ151	E.CAPACITOR 6.3V 150U	1	
C6002		ECUM1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C6003		ECUM1H330JCV	C.CAPACITOR CH 50V 33P	1	
C6004		ECRJA030E12	V.CAPACITOR	1	
C6005		ECUM1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C6006,07		ECUM1H221KBV	C.CAPACITOR CH 50V 220P	2	
C6008		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C6009		ECUM1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C6010		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C6011-13		ECUM1C104ZFV	C.CAPACITOR CH 16V 0.1U	3	
C6014		ECEA1AKS330	E.CAPACITOR 10V 33U	1	
C6016,17		ECEA0JKS220	E.CAPACITOR 6.3V 22U	2	
C6018		ECEA1CKK100	E.CAPACITOR 16V 10U	1	
C6019		ECEA1CKS470	E.CAPACITOR 16V 47U	1	
C6020		ECUM1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C6021		ECST1CB475Z	T.CAPACITOR 16V 4.7U	1	
C6022-24		ECUM1C104ZFV	C.CAPACITOR CH 16V 0.1U	3	
C6025		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
D1002		MA121	DIODE	1	
D1003		MA736	DIODE	1	
D1004		SFPB-59	DIODE	1	
D1005		MA736	DIODE	1	
D1006		MA141A	DIODE	1	
D1007		DAP202U	DIODE	1	
D1008		MA141K	DIODE	1	
D1009		MA3075H	DIODE	1	
D1013		MA141K	DIODE	1	
D1014		MA721	DIODE	1	
D2001		MA143	DIODE	1	
D2003		MA141K	DIODE	1	
D2004,05		MA736	DIODE	2	
D3501		MA141WK	DIODE	1	
D3502		DAN202U	DIODE	1	
D6001		MA143	DIODE	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
D6003		MA141K	DIODE	1	
D6004		MA141WK	DIODE	1	
D6005		MA141WA	DIODE	1	
D6006		MA141K	DIODE	1	
D6007		DAN202U	DIODE	1	
D6008		DAP202U	DIODE	1	
D6009		DAN202U	DIODE	1	
D6010		MA141WA	DIODE	1	
D6011,12		MA141A	DIODE	2	
D6013		MA141WK	DIODE	1	
IC1001		TL1453CNS	IC	1	
IC1005		UPC358G2	IC	1	
IC2001		MN67512VXF	IC	1	
IC2002,03		XRA10358F	IC	2	
IC2004		MN12821	IC	1	(Q)
IC2005		LM2903M	IC	1	
IC3501		AN3396S	IC	1	
IC4001		UPC2309AGST1	IC	1	
IC4201		UPC1513G	IC	1	
IC6001		UPD6145G617A	IC	1	
IC6002		UPD75108GK19	IC	1	
IC6003		LM2903M	IC	1	
IC6004		M54543ASL	IC	1	
IC6005		S81250HGRD	IC	1	
IC6006		MN12821	IC	1	(Q)
IC6007		UPD4066BG	IC	1	
L1001		ELC06D015	COIL	1	
L1002		ELC10D007	COIL	1	
L1005		ELC06D015	COIL	1	
L1006		ELC04D002	COIL	1	
L1007		VLQ0319K101	COIL 100UH	1	
L1008		VLQ0319F221	COIL 220UH	1	
L1009		ELC04D006	COIL 120UH	1	
L1010		VLQ0319F221	COIL 220UH	1	
L2001		ELC08D024	COIL	1	
L2002		ELC08D025	COIL 600UH	1	
L2003		VLQ0463	COIL	1	
L3501		VLQEL05T101	COIL 100UH	1	
L3502		VLQ0163F390	COIL 39UH	1	
L3503		VLQ0319K121	COIL 120UH	1	
L3504		VLQ0163K220	COIL 22UH	1	
L3505		VLQ0319K101	COIL 100UH	1	
L3506		VLQ0163K3R9	COIL 3.9UH	1	
L4001		VLQEL05T101	COIL 100UH	1	
L4002		VLQEL07F822J	COIL 8200UH	1	
L4003		VLQEL07R153J	COIL 15H	1	
L4004		VLQEL05T101	COIL 100UH	1	
L4005		VLQEL05F221	COIL 200UH	1	
L6001		VLQ0438K330	COIL 33UH	1	
L6002		VLQEL04X221	COIL 220UH	1	
P1001		VJS2819	CONNECTOR	1	
P1002		VJS2233	CONNECTOR	1	
P1003		VJP2268	CONNECTOR	1	
P2001		VJS2794	CONNECTOR	1	
P3201		VJP2262	CONNECTOR (MALE)	1	
P3501		VJP2791	CONNECTOR	1	
P3502		VJS2792	CONNECTOR	1	
P3503		VJS2123	CONNECTOR (FEMALE)	1	
P4001		VJP1611T	CONNECTOR(MALE)	1	
P4002		VJP2262	CONNECTOR (MALE)	1	
P4003		VJS2793	CONNECTOR	1	
P4201		VJP2901	CONNECTOR	1	
P6001		VJS2793	CONNECTOR	1	
P6002		VJP2260	CONNECTOR (MALE)	1	
P6003		VJP2261	CONNECTOR (MALE)	1	
P6004		VJP2260	CONNECTOR (MALE)	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
P6005		VJP2266	CONNECTOR	1	
P6006		VJP2260	CONNECTOR (MALE)	1	
Q1001,02		2SB956	TRANSISTOR	2	
Q1003		FMW1	TRANSISTOR-RESISTOR	1	
Q1004		2SB1073	TRANSISTOR	1	
Q1005		2SD2177S	TRANSISTOR	1	(S)
Q1006,07		2SB956	TRANSISTOR	2	
Q1008		2SD1819	TRANSISTOR	1	
Q1009		2SB1218	TRANSISTOR	1	
Q2001,02		2SB956X	TRANSISTOR	2	
Q3201		2SC3938	TRANSISTOR	1	
Q3202		2SB1218	TRANSISTOR	1	
Q3203		2SD1819	TRANSISTOR	1	
Q3501		2SB970	TRANSISTOR	1	
Q3502,03		2SB970X	TRANSISTOR	2	
Q3504		2SC3931	TRANSISTOR	1	
Q3505		2SD1819	TRANSISTOR	1	
Q3506		2SC3931	TRANSISTOR	1	
Q3507		2SB970X	TRANSISTOR	1	
Q4001		2SD1820	TRANSISTOR	1	
Q4002		2SB1219	TRANSISTOR	1	
Q4003		2SD1819	TRANSISTOR	1	(R)
Q6002-04		2SD1819	TRANSISTOR	3	
Q6005		2SB970	TRANSISTOR	1	
Q6006		2SD1819	TRANSISTOR	1	
Q6007,08		2SC1621	TRANSISTOR	2	
QR1001		XN4111	TRANSISTOR-RESISTOR	1	
QR1002		GA1L4M	TRANSISTOR-RESISTOR	1	
QR1003		UN511D	TRANSISTOR-RESISTOR	1	
QR1005		IMD2	TRANSISTOR-RESISTOR	1	
QR1006		GA1L4M	TRANSISTOR-RESISTOR	1	
QR2005		IMD2	TRANSISTOR-RESISTOR	1	
QR2006		XN4113	TRANSISTOR-RESISTOR	1	
QR2007		FMG2	TRANSISTOR-RESISTOR	1	
QR2008		XN4113	TRANSISTOR-RESISTOR	1	
QR2009		FMG2	TRANSISTOR-RESISTOR	1	
QR3501		GA1F4M	TRANSISTOR-RESISTOR	1	
QR3502		GA1L4M	TRANSISTOR-RESISTOR	1	
QR3503		FMG2	TRANSISTOR-RESISTOR	1	
QR3504		GA1L4M	TRANSISTOR-RESISTOR	1	
QR3505		GA1F4M	TRANSISTOR-RESISTOR	1	
QR3507		GN1L4M	TRANSISTOR-RESISTOR	1	
QR3508		GA1L4M	TRANSISTOR-RESISTOR	1	
QR3510-12		GA1L4M	TRANSISTOR-RESISTOR	3	
QR3513		GA1F4M	TRANSISTOR-RESISTOR	1	
QR3514		GA1L4M	TRANSISTOR-RESISTOR	1	
QR4001		GN1L3Z	TRANSISTOR-RESISTOR	1	
QR4002		GA1L4M	TRANSISTOR-RESISTOR	1	
QR4003		GN1L3Z	TRANSISTOR-RESISTOR	1	
QR4201		FA1F4M-T1	TRANSISTOR-RESISTOR	1	
QR6001		GN1A4P	TRANSISTOR-RESISTOR	1	
QR6002		GN1A4Z	TRANSISTOR-RESISTOR	1	
QR6003		GN1L4M	TRANSISTOR-RESISTOR	1	
QR6004-06		GA1L4M	TRANSISTOR-RESISTOR	3	
QR6007		GN1L4M	TRANSISTOR-RESISTOR	1	
QR6008		GA1L4M	TRANSISTOR-RESISTOR	1	
QR6009		GN1F4M	TRANSISTOR-RESISTOR	1	
QR6010		GA1L4L-T1	TRANSISTOR-RESISTOR	1	
QR6011		FMW1	TRANSISTOR-RESISTOR	1	
QR6012		GA1F4M	TRANSISTOR-RESISTOR	1	
QR6013		GA1L4M	TRANSISTOR-RESISTOR	1	
			RESISTORS		
R1001		VRE0034E683	M.RESISTOR CH 1/10W 68K	1	
R1002		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R1003		ERJ3GEYJ124	M.RESISTOR CH1/16W 120K	1	
R1004		ERJ8GCYJ821	M.RESISTOR CH 1/8W 820	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R1005		ERJ3GEYJ391	M.RESISTOR CH1/16W 390	1	
R1006		ERJ3GEYJ273	M.RESISTOR CH1/16W 27K	1	
R1007		ERJ3GEYJ153	M.RESISTOR CH1/16W 15K	1	
R1008		ERJ3GEYJ105	M.RESISTOR CH1/16W 1M	1	
R1009		ERJ3GEYJ682	M.RESISTOR CH1/16W 6.8K	1	
R1010		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R1011,12		ERJ3GEYJ182	M.RESISTOR CH1/16W 1.8K	2	
R1017		ERJ3GEYJ391	M.RESISTOR CH1/16W 390	1	
R1018		ERJ8GCYJ821	M.RESISTOR CH 1/8W 820	1	
R1023		ERJ3GEYJ105	M.RESISTOR CH1/16W 1M	1	
R1024		ERJ3GEYJ334	M.RESISTOR CH1/16W 330K	1	
R1025		ERJ3GEYJ822	M.RESISTOR CH1/16W 8.2K	1	
R1026		ERJ3GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R1027		ERJ3GEYJ104	M.RESISTOR CH1/16W 100K	1	
R1028		ERJ3GEYJ821	M.RESISTOR CH1/16W 820	1	
R1029,30		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	2	
R1031		ERJ6GMYJ122	M.RESISTOR CH 1/10W 1.2K	1	
R1032		ERJ6GMYJ153	M.RESISTOR CH 1/10W 15K	1	
R1033		ERJ6GMYJ273	M.RESISTOR CH 1/10W 27K	1	
R1034		ERJ6GMYG154	M.RESISTOR CH 1/10W 150K	1	
R1035		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R1036		ERJ3GEYJ561	M.RESISTOR CH1/16W 560	1	
R1037		ERJ8GCYJ330	M.RESISTOR CH 1/8W 33	1	
R1038		ERJ3GEYJ104	M.RESISTOR CH1/16W 100K	1	
R1039		ERJ8GCYJ560	M.RESISTOR CH 1/8W 56	1	
R1040		ERJ3GEYJ105	M.RESISTOR CH1/16W 1M	1	
R1041		ERJ3GEYJ184	M.RESISTOR CH1/16W 180K	1	
R1042		ERJ3GEYJ472	M.RESISTOR CH1/16W 4.7K	1	
R1043		ERJ3GEYJ561	M.RESISTOR CH1/16W 560	1	
R1044,45		ERJ3GEYJ104	M.RESISTOR CH1/16W 100K	2	
R1048		ERJ3GEYJ104	M.RESISTOR CH1/16W 100K	1	
R1049		ERJ3GEYJ473	M.RESISTOR CH1/16W 47K	1	
R1050		ERJ3GEYJ105	M.RESISTOR CH1/16W 1M	1	
R1051		ERJ3GEYJ223	M.RESISTOR CH1/16W 22K	1	
R1052-54		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	3	
R1055		ERJ3GEYJ123	M.RESISTOR CH1/16W 12K	1	
R1056		ERJ3GEYJ223	M.RESISTOR CH1/16W 22K	1	
R1057,58		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	2	
R1059		ERJ3GEYJ123	M.RESISTOR CH1/16W 12K	1	
R1061		ERJ3GEYJ183	M.RESISTOR CH1/16W 18K	1	
R1064		ERJ3GEY0R00	M.RESISTOR CH1/16W 0.00	1	
R1065		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	1	
R1067		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R1070		ERJ6GMYF124	M.RESISTOR CH1/10W 120K	1	
R2001		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R2002		ERJ6GMYJ104	M.RESISTOR CH 1/10W 100K	1	
R2003,04		ERJ3GEYJ222	M.RESISTOR CH1/16W 2.2K	2	
R2005		ERJ3GEYJ181	M.RESISTOR CH1/16W 180	1	
R2006		ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	
R2007		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R2008		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	1	
R2009		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R2010		ERJ3GEYJ105	M.RESISTOR CH1/16W 1M	1	
R2011		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	1	
R2012		ERJ3GEY0R00	M.RESISTOR CH1/16W 0.00	1	
R2013,14		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	2	
R2015		ERJ3GEYJ272	M.RESISTOR CH1/16W 2.7K	1	
R2016		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	1	
R2017		ERJ3GEYJ563	M.RESISTOR CH1/16W 56K	1	
R2018		ERJ3GEYJ272	M.RESISTOR CH1/16W 2.7K	1	
R2019		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	1	
R2020		ERJ3GEYJ154	M.RESISTOR CH1/16W 150K	1	
R2021		ERJ3GEYJ104	M.RESISTOR CH1/16W 100K	1	
R2023		ERJ3GEYJ184	M.RESISTOR CH1/16W 180K	1	
R2024,25		ERJ3GEYJ682	M.RESISTOR CH1/16W 6.8K	2	
R2026		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	1	
R2027		ERJ3GEYJ473	M.RESISTOR CH1/16W 47K	1	
R2029		ERJ3GEY0R00	M.RESISTOR CH1/16W 0.00	1	
R2031,32		ERJ3GEYJ333	M.RESISTOR CH1/16W 33K	2	
R2035		ERJ6GMYJ471	M.RESISTOR CH 1/10W 470	1	
R2036		ERJ6GMYJ104	M.RESISTOR CH 1/10W 100K	1	
R2037		ERJ3GEYJ681	M.RESISTOR CH1/16W 680	1	
R2038		ERJ3GEYJ331	M.RESISTOR CH1/16W 330	1	
R2039		ERJ3GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R2041		ERJ3GEY0R00	M.RESISTOR CH1/16W 0.00	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R2042		ERJ3GEYJ391	M.RESISTOR CH1/16W 390	1	
R2043		ERJ8GCYJ681	M.RESISTOR CH 1/8W 680	1	
R2044		ERJ3GEYJ391	M.RESISTOR CH1/16W 390	1	
R2048		ERJ3GEYJ393	M.RESISTOR CH1/16W 39K	1	
R2049		ERJ6GMYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R2050,51		ERJ6GMYJ473	M.RESISTOR CH 1/10W 47K	2	
R2052		ERJ3GEYJ101	M.RESISTOR CH1/16W 100	1	
R2053		ERJ3GEYJ104	M.RESISTOR CH1/16W 100K	1	
R2054		ERJ3GEYJ101	M.RESISTOR CH1/16W 100	1	
R2055		ERJ3GEY0R00	M.RESISTOR CH1/16W 0.00	1	
R2056,57		ERJ3GEYJ104	M.RESISTOR CH1/16W 100K	2	
R2058		VSF0014A15	FUSE RESISTOR	1	<!>
R2059,60		ERJ3GEYJ101	M.RESISTOR CH1/16W 100	2	
R3201		ERJ3GEYJ681	M.RESISTOR CH1/16W 680	1	
R3202		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	1	
R3203		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R3204		ERJ3GEYJ472	M.RESISTOR CH1/16W 4.7K	1	
R3205		ERJ3GEYJ272	M.RESISTOR CH1/16W 2.7K	1	
R3206		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R3501-03		ERJ3GEYJ472	M.RESISTOR CH1/16W 4.7K	3	
R3504		ERJ3GEYJ272	M.RESISTOR CH1/16W 2.7K	1	
R3505		ERJ3GEYJ332	M.RESISTOR CH1/16W 3.3K	1	
R3506		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R3507		ERJ6GMYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R3508		ERJ3GEYJ472	M.RESISTOR CH1/16W 4.7K	1	
R3509		ERJ6GMYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R3510		ERJ3GEYJ392	M.RESISTOR CH1/16W 3.9K	1	
R3511		ERJ3GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R3512		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R3513		ERJ3GEYJ122	M.RESISTOR CH1/16W 1.2K	1	
R3514,15		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	2	
R3516		ERJ3GEYJ682	M.RESISTOR CH1/16W 6.8K	1	
R3517		ERJ3GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R3518		ERJ3GEYJ391	M.RESISTOR CH1/16W 390	1	
R3519		ERJ3GEYJ471	M.RESISTOR CH1/16W 470	1	
R3520		ERJ3GEYJ683	M.RESISTOR CH1/16W 68K	1	
R3521		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R3522		ERJ3GEYJ683	M.RESISTOR CH1/16W 68K	1	
R3523		ERJ3GEYJ223	M.RESISTOR CH1/16W 22K	1	
R3524,25		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	2	
R3526		ERJ3GEYJ472	M.RESISTOR CH1/16W 4.7K	1	
R3527		ERJ3GEYJ471	M.RESISTOR CH1/16W 470	1	
R3528		ERJ3GEYJ152	M.RESISTOR CH1/16W 1.5K	1	
R3529,30		ERJ3GEYJ681	M.RESISTOR CH1/16W 680	2	
R3531		ERJ3GEYJ563	M.RESISTOR CH1/16W 56K	1	
R4001		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R4002		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R4003-05		ERJ3GEYJ101	M.RESISTOR CH1/16W 100	3	
R4006		ERJ3GEYJ181	M.RESISTOR CH1/16W 180	1	
R4007		ERJ3GEYJ122	M.RESISTOR CH1/16W 1.2K	1	
R4008		ERJ3GEYJ223	M.RESISTOR CH1/16W 22K	1	
R4009		ERJ3GEYJ153	M.RESISTOR CH1/16W 15K	1	
R4010		ERJ3GEYJ393	M.RESISTOR CH1/16W 39K	1	
R4011		ERJ3GEYJ151	M.RESISTOR CH1/16W 150	1	
R4012		ERJ3GEYJ184	M.RESISTOR CH1/16W 180K	1	
R4013		ERJ3GEYJ272	M.RESISTOR CH1/16W 2.7K	1	
R4014		ERJ3GEYJ181	M.RESISTOR CH1/16W 180	1	
R4015		ERJ3GEYJ333	M.RESISTOR CH1/16W 33K	1	
R4016		ERJ3GEYJ105	M.RESISTOR CH1/16W 1M	1	
R4017		ERJ3GEYJ472	M.RESISTOR CH1/16W 4.7K	1	
R4018		ERJ3GEYJ331	M.RESISTOR CH1/16W 330	1	
R4019		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R4020		ERJ3GEYJ562	M.RESISTOR CH1/16W 5.6K	1	
R4021		ERJ3GEYJ100	M.RESISTOR CH1/16W 10	1	
R4022,23		ERJ3GEYJ333	M.RESISTOR CH1/16W 33K	2	
R4024		ERJ6GMYJ104	M.RESISTOR CH 1/10W 100K	1	
R4025		ERJ3GEYJ333	M.RESISTOR CH1/16W 33K	1	
R4026		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R4201		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R6001,02		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	2	
R6004		ERJ3GEYJ473	M.RESISTOR CH1/16W 47K	1	
R6005		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	1	
R6006		ERJ3GEYJ104	M.RESISTOR CH1/16W 100K	1	
R6007		ERJ3GEYJ394	M.RESISTOR CH1/16W 390K	1	
R6008		ERJ3GEYJ473	M.RESISTOR CH1/16W 47K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R6009,10		ERJ3GEYJ683	M.RESISTOR CH1/16W 68K	2	
R6011-14		ERJ3GEYJ473	M.RESISTOR CH1/16W 47K	4	
R6015		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	1	
R6016,17		ERJ3GEYJ473	M.RESISTOR CH1/16W 47K	2	
R6018-20		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	3	
R6024		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R6025		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R6026		ERJ6GMYJ473	M.RESISTOR CH 1/10W 47K	1	
R6027		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R6028		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R6029		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	1	
R6030		ERJ3GEYJ123	M.RESISTOR CH1/16W 12K	1	
R6031		ERJ3GEYJ683	M.RESISTOR CH1/16W 68K	1	
R6032		ERJ3GEYJ331	M.RESISTOR CH1/16W 330	1	
R6033		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R6034		ERJ3GEYJ154	M.RESISTOR CH1/16W 150K	1	
R6035,36		ERJ3GEYJ473	M.RESISTOR CH1/16W 47K	2	
R6037		ERJ3GEYJ273	M.RESISTOR CH1/16W 27K	1	
R6038		ERJ3GEYJ334	M.RESISTOR CH1/16W 330K	1	
R6039		ERJ3GEYJ823	M.RESISTOR CH1/16W 82K	1	
R6040		ERJ3GEYJ124	M.RESISTOR CH1/16W 120K	1	
R6041		ERJ3GEYJ473	M.RESISTOR CH1/16W 47K	1	
R6042		ERJ3GEYJ124	M.RESISTOR CH1/16W 120K	1	
R6043		ERJ3GEYJ224	M.RESISTOR CH1/16W 220K	1	
R6044		ERJ3GEYJ563	M.RESISTOR CH1/16W 56K	1	
R6045,46		ERJ3GEYJ101	M.RESISTOR CH1/16W 100	2	
R6047,48		ERJ3GEYJ222	M.RESISTOR CH1/16W 2.2K	2	
R6049		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	1	
R6050		ERJ3GEYJ223	M.RESISTOR CH1/16W 22K	1	
R6051		ERJ6GMYJ184	M.RESISTOR CH 1/10W 180K	1	
R6052-54		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	3	
R6056		ERJ8GCYJ473	M.RESISTOR CH 1/8W 47K	1	
R6057,58		ERJ3GEYJ223	M.RESISTOR CH1/16W 22K	2	
R6059,60		ERJ3GEYJ101	M.RESISTOR CH1/16W 100	2	
R6061		ERJ3GEYJ392	M.RESISTOR CH1/16W 3.9K	1	
R6062		ERJ3GEYJ182	M.RESISTOR CH1/16W 1.8K	1	
R6063		ERJ3GEYJ471	M.RESISTOR CH1/16W 470	1	
R6064		ERJ6GMYJ100	M.RESISTOR CH 1/10W 10	1	
R6065		ERJ3GEYJ473	M.RESISTOR CH1/16W 47K	1	
R6066		ERJ3GEYJ152	M.RESISTOR CH1/16W 1.5K	1	
R6067		ERJ3GEYJ822	M.RESISTOR CH1/16W 8.2K	1	
R6068		ERJ6GMYJ683	M.RESISTOR CH 1/10W 68K	1	
R6069		ERJ3GEYJ472	M.RESISTOR CH1/16W 4.7K	1	
R6070		ERJ3GEYJ104	M.RESISTOR CH1/16W 100K	1	
R6071		ERJ3GEYJ224	M.RESISTOR CH1/16W 220K	1	
R6072		ERJ3GEYJ473	M.RESISTOR CH1/16W 47K	1	
R6073,74		ERJ3GEYJ223	M.RESISTOR CH1/16W 22K	2	
R6076		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R6077		ERJ3GEYJ473	M.RESISTOR CH1/16W 47K	1	
R6078,79		ERJ3GEYJ683	M.RESISTOR CH1/16W 68K	2	
R6080		ERJ6GMYJ473	M.RESISTOR CH 1/10W 47K	1	
R6081,82		ERJ3GEYJ683	M.RESISTOR CH1/16W 68K	2	
R6084		ERJ3GEYJ223	M.RESISTOR CH1/16W 22K	1	
R6085		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	1	
R6086-89		ERJ3GEYJ473	M.RESISTOR CH1/16W 47K	4	
R6090		ERJ3GEYJ471	M.RESISTOR CH1/16W 470	1	
R6091		ERJ3GEYJ472	M.RESISTOR CH1/16W 4.7K	1	
R6092		ERJ3GEYJ273	M.RESISTOR CH1/16W 27K	1	
R6093		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R6094		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R6095		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
T1001		ELL10R021	TRANSFORMER	1	
T4001		EIQ7QF017Q	TRANSFORMER	1	
T4002		EIQ7QE016Q	TRANSFORMER	1	
VR1001		EVM7JSX30B23	V.RESISTOR 2K	1	
VR1002		EVM7JSX30B53	V.RESISTOR 5K	1	
VR1003		EVM7JSX30B52	V.RESISTOR 500	1	
VR2001		EVM7JSX30B15	V.RESISTOR 100K	1	
VR3201		EVM7JSX30B14	V.RESISTOR 10K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
VR4001,02		EVM7JSX30B54	V.RESISTOR 50K	2	
VR6001		EVM7JSX30B24	V.RESISTOR 20K	1	
X2001		VSX0341	CRYSTAL OSCILLATOR	1	
X6001		VSX0299	CRYSTAL OSCILLATOR	1	
			MISCELLANEOUS		
		VEK4975	EDIT 5P C.B.A.	1	
		VSC2964	SHIELD	1	FOR POWER(TOP)
		VSC2965	SHIELD	1	FOR POWER(MAIN)
		VSC2966	SHIELD	1	FOR POWER(BOTTOM)
		VSC2967	SHIELD	1	FOR SERVO(TOP)
		VSC2968	SHIELD	1	FOR SERVO(MAIN)
		VSC2969	SHIELD	1	FOR SERVO(BOTTOM)
		VSC3163	SHIELD	1	
		VWJ0394	FLEXIBLE CARD	1	P5501-P3503
	■	VEP03758A	LUMINANCE/CHROMINANCE		(NLA)
			C.B.A.		
			CAPACITORS		
C3001,02		ECEA0JSJ151	E.CAPACITOR 6.3V 150U	2	
C3004		ECUM1E104ZFM	C.CAPACITOR CH 25V 0.1U	1	
C3005		ECEA1CKK100	E.CAPACITOR 16V 10U	1	
C3006		ECEA1EKK4R7L	E.CAPACITOR 25V 4.7U	1	
C3007		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C3008		ECUM1H273ZFN	C.CAPACITOR CH 50V 0.027U	1	
C3009		ECEA1EKK2R2L	E.CAPACITOR 25V 2.2U	1	
C3010		ECUM1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C3012		ECUM1H220JCV	C.CAPACITOR CH 50V 22P	1	
C3013		ECUM1H560JCV	C.CAPACITOR CH 50V 56P	1	
C3014		ECUM1H820JCV	C.CAPACITOR CH 50V 82P	1	
C3015		ECUM1H560JCV	C.CAPACITOR CH 50V 56P	1	
C3016		ECUM1H680JCV	C.CAPACITOR CH 50V 68P	1	
C3017		ECUM1C473ZFV	C.CAPACITOR CH 16V 0.047U	1	
C3018		ECUM1H101JV	C.CAPACITOR CH 50V 100P	1	
C3019		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C3020,21		ECEA1EKK4R7L	E.CAPACITOR 25V 4.7U	2	
C3022		ECUM1H330JCV	C.CAPACITOR CH 50V 33P	1	
C3023		ECUM1H100CCV	C.CAPACITOR CH 50V 10P	1	
C3024		ECUM1H180JCV	C.CAPACITOR CH 50V 18P	1	
C3025		ECSF1CE106	T.CAPACITOR 16V 10U	1	
C3026,27		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C3028		ECUM1H150JCV	C.CAPACITOR CH 50V 15P	1	
C3029		ECUM1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C3030		ECEA1EKK4R7L	E.CAPACITOR 25V 4.7U	1	
C3032		ECUM1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C3033		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C3034		ECEA1EKK4R7L	E.CAPACITOR 25V 4.7U	1	
C3035		ECEA1HKK010L	E.CAPACITOR 50V 1U	1	
C3038		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C3040,41		ECEA1CKK100	E.CAPACITOR 16V 10U	2	
C3042-44		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	3	
C3045		ECEA1HKK010L	E.CAPACITOR 50V 1U	1	
C3048		ECEA0GKA471	E.CAPACITOR 470U	1	
C3049		ECEA1HKK010L	E.CAPACITOR 50V 1U	1	
C3050		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C3051		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C3052		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3053		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C3054,55		ECEA1CKK100	E.CAPACITOR 16V 10U	2	
C3056		ECUM1H330JCV	C.CAPACITOR CH 50V 33P	1	
C3057		ECUM1H680JCV	C.CAPACITOR CH 50V 68P	1	
C3058		ECUM1H560JCV	C.CAPACITOR CH 50V 56P	1	
C3059		ECUM1H391KBV	C.CAPACITOR CH 50V 390P	1	
C3060		ECUM1H390JCV	C.CAPACITOR CH 50V 39P	1	
C3061		ECUM1H180JCV	C.CAPACITOR CH 50V 18P	1	
C3062		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C3065		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C3066		ECST1AX106Z	T.CAPACITOR 10V 10U	1	
C3067		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C3068		ECUM1H471KBV	C.CAPACITOR CH 50V 470P	1	
C3069		ECUM1H101JV	C.CAPACITOR CH 50V 100P	1	
C3070		ECST1AY335Z	T.CAPACITOR 10V 3.3U	1	
C3071		ECST1AY225Z	T.CAPACITOR 10V 2.2U	1	
C3072		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C3073		ECUM1H223ZFV	C.CAPACITOR CH 50V 0.022U	1	
C3074,75		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C3076		ECUM1H150JCV	C.CAPACITOR CH 50V 15P	1	
C3077-79		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	3	
C3080		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C3081		ECUM1H331JN	C.CAPACITOR CH 50V 330P	1	
C3082		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C3083		ECEA0JKS101	E.CAPACITOR 6.3V 100U	1	
C3084,85		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C3086		ECUM1H330JCV	C.CAPACITOR CH 50V 33P	1	
C3087		ECUM1H390JCV	C.CAPACITOR CH 50V 39P	1	
C3088		ECUM1H100CCV	C.CAPACITOR CH 50V 10P	1	
C3089		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C3090		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C3091		ECEA0JKS220	E.CAPACITOR 6.3V 22U	1	
C3096		ECEA1CKK100	E.CAPACITOR 16V 10U	1	
C3097		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C3098		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C3099		ECEA0JSN220	E.CAPACITOR 6.3V 22U	1	
C3100,01		ECEA1EKK4R7L	E.CAPACITOR 25V 4.7U	2	
C3102		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C3103		ECUM1H271JV	C.CAPACITOR CH 50V 270P	1	
C3104		ECUM1H820JCV	C.CAPACITOR CH 50V 82P	1	
C3105		ECUM1H271JV	C.CAPACITOR CH 50V 270P	1	
C3106		ECUM1H221JV	C.CAPACITOR CH 50V 220P	1	
C3107		ECUM1H271JV	C.CAPACITOR CH 50V 270P	1	
C3108		ECUM1H820JCV	C.CAPACITOR CH 50V 82P	1	
C3109		ECUM1H271JV	C.CAPACITOR CH 50V 270P	1	
C3110		ECUM1H221JV	C.CAPACITOR CH 50V 220P	1	
C3111		ECUM1H271JV	C.CAPACITOR CH 50V 270P	1	
C3115		ECUM1H680JCV	C.CAPACITOR CH 50V 68P	1	
C3116		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C3117		ECEA0GKA471	E.CAPACITOR 470U	1	
C3118		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C3119		ECUM1H270JCV	C.CAPACITOR CH 50V 27P	1	
C3122		ECEA1CKK100	E.CAPACITOR 16V 10U	1	
C3123		ECEA0JSN220	E.CAPACITOR 6.3V 22U	1	
C3124		ECUM1H330JCV	C.CAPACITOR CH 50V 33P	1	
C3125		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3126,27		ECUM1C104ZFV	C.CAPACITOR CH 16V 0.1U	2	
C3128		ECEA1AKA330L	E.CAPACITOR 10V 33U	1	
C3129		ECUM1H680JCV	C.CAPACITOR CH 50V 68P	1	
C3130		ECUM1H472KBV	C.CAPACITOR CH 50V 4700P	1	
C3131		ECUM1H151JCV	C.CAPACITOR CH 50V 150P	1	
C3132		ECUM1H101JCV	C.CAPACITOR CH 50V 100P	1	
C3133		ECUM1H330JCV	C.CAPACITOR CH 50V 33P	1	
C3134		ECEA1CKK100I	E.CAPACITOR 16V 10U	1	
C3135		ECUM1H330JCV	C.CAPACITOR CH 50V 33P	1	
C8001		ECEA1CKK100	E.CAPACITOR 16V 10U	1	
C8002		ECUM1E223ZFV	C.CAPACITOR CH 25V 0.022U	1	
C8004		ECUM1H471KBV	C.CAPACITOR CH 50V 470P	1	
C8005		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C8006-18		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	13	
C8019		ECEA1EKK4R7L	E.CAPACITOR 25V 4.7U	1	
C8020		ECEA1EKK2R2L	E.CAPACITOR 25V 2.2U	1	
C8021		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C8022		ECEA1EKK3R3L	E.CAPACITOR 25V 3.3U	1	
C8023,24		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C8025		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C8026		ECUM1H030CCV	C.CAPACITOR CH 50V 3P	1	
C8027		ECUM1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C8028		ECEA0JSJ151	E.CAPACITOR 6.3V 150U	1	
C8029		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C8030		ECUM1H101JCV	C.CAPACITOR CH 50V 100P	1	
C8031-35		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	5	
C8036		ECUM1E224ZFM	C.CAPACITOR CH 25V 0.22U	1	
C8037		ECUM1H680JCV	C.CAPACITOR CH 50V 68P	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C8038		ECUM1H332KBV	C.CAPACITOR CH 50V 3300P	1	
C8039		ECEA1HKK0R1L	E.CAPACITOR 50V 0.1U	1	
C8040		ECUM1H090CCV	C.CAPACITOR CH 50V 9P	1	
C8045		ECUM1H390JCV	C.CAPACITOR CH 50V 39P	1	
C8047,48		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C8049		ECEA0JKS220	E.CAPACITOR 6.3V 22U	1	
C8063-65		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	3	
C8066		ECRJA020E12	TRIMER	1	
C8067		ECUM1C224ZFN	C.CAPACITOR CH 16V 0.22U	1	
C8068		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C8069		ECUM1H271JV	C.CAPACITOR CH 50V 270P	1	
C8078,79		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C8090		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C8501		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C8502		ECUM1H680JCV	C.CAPACITOR CH 50V 68P	1	
C8503-06		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	4	
C8507		ECUM1H222KBV	C.CAPACITOR CH 50V 2200P	1	
C8508		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C8509		ECUM1H223ZFV	C.CAPACITOR CH 50V 0.022U	1	
C8510,11		ECUM1H220JCV	C.CAPACITOR CH 50V 22P	2	
C8512		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C8513-15		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	3	
C8516		ECUM1H152KBV	C.CAPACITOR CH 50V 1500P	1	
C8517		ECUM1H332KBV	C.CAPACITOR CH 50V 3300P	1	
C8518		ECST1AY475Z	T.CAPACITOR 10V 4.7U	1	
C8519		ECSF1VE104	T.CAPACITOR 35V 0.1U	1	
C8520		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C8521,22		ECUM1C104ZFV	C.CAPACITOR CH 16V 0.1U	2	
C8523		ECUM1C105KBN	C.CAPACITOR CH 16V 1U	1	
C8524		ECUM1H222KBV	C.CAPACITOR CH 50V 2200P	1	
C8525		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C8526		ECST1AX106Z	T.CAPACITOR 10V 10U	1	
C8527		ECUM1H100JCV	C.CAPACITOR CH 50V 10P	1	
C8528		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C8529		ECUM1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C8530		ECST1AY475Z	T.CAPACITOR 10V 4.7U	1	
C8531		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C8532		ECST1AX106Z	T.CAPACITOR 10V 10U	1	
C8533		ECUM1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C8534		ECST1AY475Z	T.CAPACITOR 10V 4.7U	1	
C8535		ECUM1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C8536-38		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	3	
C8539		ECUM1H390JCV	C.CAPACITOR CH 50V 39P	1	
C8540		ECST1AX106Z	T.CAPACITOR 10V 10U	1	
C8541		ECUM1H220JCV	C.CAPACITOR CH 50V 22P	1	
C8542		ECUM1H270JCV	C.CAPACITOR CH 50V 27P	1	
C8543-45		ECUM1C104ZFV	C.CAPACITOR CH 16V 0.1U	3	
C8546		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C8547,48		ECST1AX106Z	T.CAPACITOR 10V 10U	2	
C8549		ECST1AY475Z	T.CAPACITOR 10V 4.7U	1	
C8550		ECUM1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C8551-53		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	3	
C8554		ECUM1H390JCN	C.CAPACITOR CH 50V 39P	1	
C8555		ECST1AX106Z	T.CAPACITOR 10V 10U	1	
C8556		ECUM1H220JCV	C.CAPACITOR CH 50V 22P	1	
C8557		ECUM1H270JCV	C.CAPACITOR CH 50V 27P	1	
C8558		ECST1AX106Z	T.CAPACITOR 10V 10U	1	
C8559		ECUM1H820JCV	C.CAPACITOR CH 50V 82P	1	
C8560,61		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	2	
C8562,63		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C8564		ECUM1H050CCV	C.CAPACITOR CH 50V 5P	1	
D3001		MA141K	DIODE	1	
D3004-06		MA141K	DIODE	3	
D3007		1SS283	DIODE	1	
D3010-12		MA141K	DIODE	3	
D3056		MA3056	DIODE	1	
D3065		DAP202U	DIODE	1	
D8001		MA141K	DIODE	1	
D8501		MA141K	DIODE	1	
D8502		MA121	DIODE	1	
D8503		MA141K	DIODE	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
DL8001		EFDAT124A13A	DELAY	1	
FL3001		ELB4C014	FILTER	1	
FL3002		VLF0796	FILTER	1	
FL3003		ELB4A020	FILTER	1	
FL3004		ELB4E024	FILTER	1	
FL3005		ELB4D015	FILTER	1	
FL3006		ELB4C010	FILTER	1	
FL3007		ELB4B054	FILTER	1	
FL8001		ELB4B010	FILTER	1	
FL8002		ELB4B052	FILTER	1	
FL8003		VLF0769	FILTER	1	
FL8008		ELB4C038	FILTER	1	
FL8009		VLF0734	FILTER	1	
FL8501		VLF0856	FILTER	1	
FL8502		VLF0797	FILTER	1	
IC3001		VEFH08C	HIC	1	
IC3002		MST001MS	IC	1	
IC3003		TL8809F	IC	1	
IC3004		AN3580SB	IC	1	
IC3005		AN3292NS	IC	1	
IC3006		AN3495S	IC	1	
IC3007		M52065FP	IC	1	
IC3008		VEFH10B	HIC	1	
IC8001		M52059AFP	IC	1	
IC8002		AN6308S	IC	1	
IC8501		AN3592S	IC	1	
IC8502		MST001MS	IC	1	
IC8503,04		MSM6989MS	IC	2	
IC8505,06		BA7131F	IC	2	
L3001,02		VLQEL05T101	COIL 100UH	2	
L3003		VLQ0163K330	COIL 33UH	1	
L3004		VLQ0163K121	COIL	1	
L3005		VLQ0163K101	COIL 100UH	1	
L3006		VLQ0163K121	COIL	1	
L3007		VLQ0163K470	COIL 47H	1	
L3008		VLQEL05T101	COIL 100UH	1	
L3009		VLQ0163K150	COIL 15UH	1	
L3010		VLQ0163K151	COIL 150UH	1	
L3011		VLQ0163K330	COIL 33UH	1	
L3012-14		VLQEL05T101	COIL 100UH	3	
L3016,17		VLQ0163K150	COIL 15UH	2	
L3018		VLQEL05T101	COIL 100UH	1	
L3019		VLQ0163K101	COIL 100UH	1	
L3020		VLQ0163K330	COIL 33UH	1	
L3021		VLQ0163K121	COIL	1	
L3022		VLQ0163K150	COIL 15UH	1	
L3023		VLQEL05T470	COIL 47UH	1	
L3024		VLQ0163K120	COIL 12UH	1	
L3025		VLQ0163F390	COIL 39UH	1	
L8001		VLQ0163K820	COIL 82UH	1	
L8012		VLQEL05T101	COIL 100UH	1	
L8013		VLQ0163K150	COIL 15UH	1	
L8014		VLQEL05T681	COIL 680UH	1	
L8015		VLQ0163K121	COIL	1	
L8016		VLQEL05T101	COIL 100UH	1	
L8017		VLQ0163K101	COIL 100UH	1	
L8018		VLQEL05T101	COIL 100UH	1	
L8021		VLQ0163K330	COIL 33UH	1	
L8026		VLQEL05T331	COIL 330UH	1	
L8501		VLQ0163K470	COIL 47H	1	
L8502		VLQ0319K101	COIL 100UH	1	
L8503		VLQ0163K330	COIL 33UH	1	
L8504		VLQEL05T101	COIL 100UH	1	
L8505,06		VLQ0319K101	COIL 100UH	2	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
L8507,08		VLQ0163K560	COIL 56UH	2	
L8509		VLQ0163K100	COIL 10UH	1	
L8510		VLQEL05T101	COIL 100UH	1	
P3001		VJS2791	CONNECTOR	1	
P3002		VJP2268	CONNECTOR	1	
P3003		VJP2263	CONNECTOR	1	
P8501		VJR0368	CONNECTOR (MALE)	1	
P8502		VJR0615	CONNECTOR	1	
Q3001		IMX1	TRANSISTOR	1	
Q3003		FMW1	TRANSISTOR-RESISTOR	1	
Q3004		IMX1	TRANSISTOR	1	
Q3005		2SC3931	TRANSISTOR	1	
Q3006		2SD1819	TRANSISTOR	1	
Q3008		IMX1	TRANSISTOR	1	
Q3009		2SC3931	TRANSISTOR	1	
Q3010		2SB1218	TRANSISTOR	1	
Q3011		IMZ1	TRANSISTOR	1	
Q3012		2SD1819	TRANSISTOR	1	
Q3014		IMX1	TRANSISTOR	1	
Q3015		IMZ1	TRANSISTOR	1	
Q3016		2SC3931	TRANSISTOR	1	
Q3021		2SC3931	TRANSISTOR	1	
Q3022		XN4401	TRANSISTOR-RESISTOR	1	
Q3023		2SD1819	TRANSISTOR	1	
Q3025		2SB1218	TRANSISTOR	1	
Q3026		2SD1328	TRANSISTOR CHIP	1	
Q8501		2SD1819	TRANSISTOR	1	
Q8502		XN6501	TRANSISTOR	1	
Q8503		XN4501	TRANSISTOR-RESISTOR	1	
Q8504		XN4601	TRANSISTOR-RESISTOR	1	
Q8505-07		2SD1819	TRANSISTOR	3	
Q8508		XN4501	TRANSISTOR-RESISTOR	1	
Q8509		XN4601	TRANSISTOR-RESISTOR	1	
Q8510		2SD1819	TRANSISTOR	1	
Q8511		XN4501	TRANSISTOR-RESISTOR	1	
Q8512		XN4601	TRANSISTOR-RESISTOR	1	
QR3001		GA1F4M	TRANSISTOR-RESISTOR	1	
QR3002,03		FMG1	TRANSISTOR-RESISTOR	2	
QR3004		IMD2	TRANSISTOR-RESISTOR	1	
QR3005		FMG2	TRANSISTOR-RESISTOR	1	
QR3006		GA1L4M	TRANSISTOR-RESISTOR	1	
QR3010		GA1F4M	TRANSISTOR-RESISTOR	1	
QR3011		XN4212	TRANSISTOR-RESISTOR	1	
QR3013		FMG1	TRANSISTOR-RESISTOR	1	
QR3015		FMG1	TRANSISTOR-RESISTOR	1	
QR3016		XN4212	TRANSISTOR-RESISTOR	1	
QR3018		GA1F4M	TRANSISTOR-RESISTOR	1	
QR3020		GA1L4M	TRANSISTOR-RESISTOR	1	
QR3022		XN4215	TRANSISTOR-RESISTOR	1	
QR3023		FMG1	TRANSISTOR-RESISTOR	1	
QR3026		GN1L4M	TRANSISTOR-RESISTOR	1	
QR3027		FMG2	TRANSISTOR-RESISTOR	1	
QR3028		XN1115	TRANSISTOR-RESISTOR	1	
QR3030		FMG2	TRANSISTOR-RESISTOR	1	
QR3031		IMD2	TRANSISTOR-RESISTOR	1	
QR3033		GA1L4M	TRANSISTOR-RESISTOR	1	
QR8001		FMG1	TRANSISTOR-RESISTOR	1	
QR8004		FMG1	TRANSISTOR-RESISTOR	1	
QR8006		FMW1	TRANSISTOR-RESISTOR	1	
QR8007		FMG2	TRANSISTOR-RESISTOR	1	
QR8009		GA1L4Z	TRANSISTOR-RESISTOR	1	
QR8010		FMG2	TRANSISTOR-RESISTOR	1	
QR8011		GA1L4M	TRANSISTOR-RESISTOR	1	
QR8013		XN4212	TRANSISTOR-RESISTOR	1	
QR8501		GA1F4M	TRANSISTOR-RESISTOR	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			RESISTORS		
R3002		ERJ3GEYJ181	M.RESISTOR CH1/16W 180	1	
R3003		ERJ3GEYJ101	M.RESISTOR CH1/16W 100	1	
R3004		ERJ3GEYJ331	M.RESISTOR CH1/16W 330	1	
R3005,06		ERJ3GEYJ223	M.RESISTOR CH1/16W 22K	2	
R3007		ERJ3GEYJ561	M.RESISTOR CH1/16W 560	1	
R3010		ERJ3GEYJ272	M.RESISTOR CH1/16W 2.7K	1	
R3011		ERJ3GEYJ682	M.RESISTOR CH1/16W 6.8K	1	
R3012		ERJ3GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R3013		ERJ3GEYJ122	M.RESISTOR CH1/16W 1.2K	1	
R3014		ERJ3GEYJ471	M.RESISTOR CH1/16W 470	1	
R3015		ERJ3GEYJ333	M.RESISTOR CH1/16W 33K	1	
R3016,17		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	2	
R3018		ERJ3GEYJ821	M.RESISTOR CH1/16W 820	1	
R3019,20		ERJ3GEYJ273	M.RESISTOR CH1/16W 27K	2	
R3021		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	1	
R3022		ERJ3GEYJ182	M.RESISTOR CH1/16W 1.8K	1	
R3023		ERJ3GEYJ561	M.RESISTOR CH1/16W 560	1	
R3024,25		ERJ3GEYJ182	M.RESISTOR CH1/16W 1.8K	2	
R3026		ERJ3GEY0R00	M.RESISTOR CH1/16W 0.00	1	
R3027-30		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	4	
R3031		ERJ3GEYJ561	M.RESISTOR CH1/16W 560	1	
R3032,33		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	2	
R3034		ERJ3GEYJ153	M.RESISTOR CH1/16W 15K	1	
R3035,36		ERJ3GEYJ272	M.RESISTOR CH1/16W 2.7K	2	
R3037,38		ERJ3GEYJ182	M.RESISTOR CH1/16W 1.8K	2	
R3039		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R3040		ERJ3GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R3041,42		ERJ3GEYJ223	M.RESISTOR CH1/16W 22K	2	
R3043		ERJ3GEYJ682	M.RESISTOR CH1/16W 6.8K	1	
R3044		ERJ3GEYJ123	M.RESISTOR CH1/16W 12K	1	
R3045		ERJ3GEYJ391	M.RESISTOR CH1/16W 390	1	
R3046		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R3047		ERJ3GEYJ471	M.RESISTOR CH1/16W 470	1	
R3048		ERJ3GEYJ122	M.RESISTOR CH1/16W 1.2K	1	
R3049		ERJ3GEYJ105	M.RESISTOR CH1/16W 1M	1	
R3050		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R3051		ERJ3GEYJ750	M.RESISTOR CH1/16W 75	1	
R3053,54		ERJ3GEYJ223	M.RESISTOR CH1/16W 22K	2	
R3055		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R3056		ERJ3GEYJ152	M.RESISTOR CH1/16W 1.5K	1	
R3058		ERJ3GEYJ123	M.RESISTOR CH1/16W 12K	1	
R3061		ERJ3GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R3062		ERJ3GEYJ271	M.RESISTOR CH1/16W 270	1	
R3063,64		ERJ3GEYJ101	M.RESISTOR CH1/16W 100	2	
R3065,66		ERJ3GEYJ123	M.RESISTOR CH1/16W 12K	2	
R3067-69		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	3	
R3070		ERJ3GEYJ152	M.RESISTOR CH1/16W 1.5K	1	
R3071		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R3072		ERJ3GEYJ681	M.RESISTOR CH1/16W 680	1	
R3073		ERJ3GEYJ223	M.RESISTOR CH1/16W 22K	1	
R3074		ERJ3GEYJ333	M.RESISTOR CH1/16W 33K	1	
R3075		ERJ3GEYJ272	M.RESISTOR CH1/16W 2.7K	1	
R3076		ERJ3GEYJ101	M.RESISTOR CH1/16W 100	1	
R3077		ERJ3GEYJ273	M.RESISTOR CH1/16W 27K	1	
R3078		ERJ3GEYJ123	M.RESISTOR CH1/16W 12K	1	
R3079		ERJ3GEYJ473	M.RESISTOR CH1/16W 47K	1	
R3080		ERJ3GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R3081		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	1	
R3082		ERJ3GEYJ223	M.RESISTOR CH1/16W 22K	1	
R3083		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	1	
R3084		ERJ3GEYJ393	M.RESISTOR CH1/16W 39K	1	
R3085		ERJ3GEYJ562	M.RESISTOR CH1/16W 5.6K	1	
R3086		ERJ3GEYJ104	M.RESISTOR CH1/16W 100K	1	
R3087		ERJ3GEYJ393	M.RESISTOR CH1/16W 39K	1	
R3088		ERJ3GEYG332	M.RESISTOR CH1/16W 3.3K	1	
R3089		ERJ3GEYG471	M.RESISTOR CH1/16W 470	1	
R3090		ERJ3GEYG102	M.RESISTOR CH1/16W 1K	1	
R3091		ERJ3GEYG332	M.RESISTOR CH1/16W 3.3K	1	
R3092		ERJ3GEYJ152	M.RESISTOR CH1/16W 1.5K	1	
R3093		ERJ3GEYJ823	M.RESISTOR CH1/16W 82K	1	
R3094		ERJ3GEYG102	M.RESISTOR CH1/16W 1K	1	
R3095		ERJ3GEYG152	M.RESISTOR CH1/16W 1.5K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R3096		ERJ3GEYG102	M.RESISTOR CH1/16W 1K	1	
R3097		ERJ3GEYJ471	M.RESISTOR CH1/16W 470	1	
R3098		ERJ3GEYG102	M.RESISTOR CH1/16W 1K	1	
R3099,00		ERJ3GEYG332	M.RESISTOR CH1/16W 3.3K	2	
R3101		ERJ3GEYG102	M.RESISTOR CH1/16W 1K	1	
R3102		ERJ3GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R3103		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R3105,06		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	2	
R3107		ERJ3GEYJ561	M.RESISTOR CH1/16W 560	1	
R3109		ERJ3GEYJ333	M.RESISTOR CH1/16W 33K	1	
R3110		ERJ3GEYJ153	M.RESISTOR CH1/16W 15K	1	
R3111-13		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	3	
R3116		ERJ3GEYJ681	M.RESISTOR CH1/16W 680	1	
R3120		ERJ3GEYJ182	M.RESISTOR CH1/16W 1.8K	1	
R3121		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R3122		ERJ3GEYJ332	M.RESISTOR CH1/16W 3.3K	1	
R3123,24		ERJ3GEYJ680	M.RESISTOR CH1/16W 68	2	
R3125		ERJ3GEY0R00	M.RESISTOR CH1/16W 0.00	1	
R3126,27		ERJ3GEYJ182	M.RESISTOR CH1/16W 1.8K	2	
R3128		ERJ3GEYJ680	M.RESISTOR CH1/16W 68	1	
R3129		ERJ3GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R3130		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R3131		ERJ3GEYJ822	M.RESISTOR CH1/16W 8.2K	1	
R3132-34		ERJ3GEYJ222	M.RESISTOR CH1/16W 2.2K	3	
R3135		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R3136		ERJ3GEYJ181	M.RESISTOR CH1/16W 180	1	
R3137		ERJ3GEYJ562	M.RESISTOR CH1/16W 5.6K	1	
R3138,39		ERJ3GEYJ681	M.RESISTOR CH1/16W 680	2	
R3140		ERJ3GEYJ332	M.RESISTOR CH1/16W 3.3K	1	
R3141		ERJ3GEYJ681	M.RESISTOR CH1/16W 680	1	
R3142		ERJ3GEYJ471	M.RESISTOR CH1/16W 470	1	
R3143		ERJ3GEYJ392	M.RESISTOR CH1/16W 3.9K	1	
R3144		ERJ3GEYJ391	M.RESISTOR CH1/16W 390	1	
R3145		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	1	
R3146		ERJ3GEYJ681	M.RESISTOR CH1/16W 680	1	
R3147		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R3149		ERJ3GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R3150		ERJ3GEYJ561	M.RESISTOR CH1/16W 560	1	
R3151		ERJ3GEYJ392	M.RESISTOR CH1/16W 3.9K	1	
R3152		ERJ3GEYJ561	M.RESISTOR CH1/16W 560	1	
R3153		ERJ3GEYJ221	M.RESISTOR CH1/16W 220	1	
R3154		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R3160		ERJ3GEYJ123	M.RESISTOR CH1/16W 12K	1	
R3161		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R3162		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	1	
R3163		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R3164		ERJ3GEYJ152	M.RESISTOR CH1/16W 1.5K	1	
R3165		ERJ3GEYJ474	M.RESISTOR CH1/16W 470K	1	
R3166		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R3167,68		ERJ3GEYJ223	M.RESISTOR CH1/16W 22K	2	
R3169		ERJ3GEYJ123	M.RESISTOR CH1/16W 12K	1	
R3170		ERJ3GEYJ332	M.RESISTOR CH1/16W 3.3K	1	
R3171		ERJ3GEYJ122	M.RESISTOR CH1/16W 1.2K	1	
R3172		ERJ3GEYJ273	M.RESISTOR CH1/16W 27K	1	
R3173		ERJ3GEYJ221	M.RESISTOR CH1/16W 220	1	
R3174		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R3175		ERJ3GEYJ224	M.RESISTOR CH1/16W 220K	1	
R3176		ERJ3GEYJ151	M.RESISTOR CH1/16W 150	1	
R3177		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R3178		ERJ3GEYJ473	M.RESISTOR CH1/16W 47K	1	
R3179,80		ERJ3GEYJ472	M.RESISTOR CH1/16W 4.7K	2	
R3181,82		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	2	
R3183		ERJ3GEYJ104	M.RESISTOR CH1/16W 100K	1	
R3184		ERJ3GEYJ682	M.RESISTOR CH1/16W 6.8K	1	
R8001-03		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	3	
R8004		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	1	
R8005		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R8006		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	1	
R8009		ERJ3GEYJ122	M.RESISTOR CH1/16W 1.2K	1	
R8010		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R8011		ERJ3GEYJ472	M.RESISTOR CH1/16W 4.7K	1	
R8012		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R8013		ERJ3GEYJ563	M.RESISTOR CH1/16W 56K	1	
R8014		ERJ3GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R8015		ERJ3GEYJ182	M.RESISTOR CH1/16W 1.8K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R8017		ERJ3GEYJ822	M.RESISTOR CH1/16W 8.2K	1	
R8018		ERJ3GEYJ153	M.RESISTOR CH1/16W 15K	1	
R8020		ERJ3GEYJ182	M.RESISTOR CH1/16W 1.8K	1	
R8025		ERJ3GEY0R00	M.RESISTOR CH1/16W 0.00	1	
R8027		ERJ3GEYJ823	M.RESISTOR CH1/16W 82K	1	
R8028		ERJ3GEYJ182	M.RESISTOR CH1/16W 1.8K	1	
R8029		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R8088		ERJ3GEYJ271	M.RESISTOR CH1/16W 270	1	
R8100		ERJ3GEYJ153	M.RESISTOR CH1/16W 15K	1	
R8101		ERJ3GEYJ223	M.RESISTOR CH1/16W 22K	1	
R8102		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	1	
R8103		ERJ3GEYJ473	M.RESISTOR CH1/16W 47K	1	
R8105		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R8106		ERJ3GEYJ272	M.RESISTOR CH1/16W 2.7K	1	
R8107,08		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	2	
R8109		ERJ3GEYJ272	M.RESISTOR CH1/16W 2.7K	1	
R8110		ERJ3GEYJ182	M.RESISTOR CH1/16W 1.8K	1	
R8111		ERJ3GEYJ223	M.RESISTOR CH1/16W 22K	1	
R8113		ERJ3GEYJ182	M.RESISTOR CH1/16W 1.8K	1	
R8127		ERJ3GEYJ152	M.RESISTOR CH1/16W 1.5K	1	
R8131		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	1	
R8132		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R8133		ERJ3GEY0R00	M.RESISTOR CH1/16W 0.00	1	
R8134		ERJ3GEYJ223	M.RESISTOR CH1/16W 22K	1	
R8136		ERJ3GEYJ473	M.RESISTOR CH1/16W 47K	1	
R8137		ERJ3GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R8138,39		ERJ3GEYJ223	M.RESISTOR CH1/16W 22K	2	
R8142		ERJ3GEYJ104	M.RESISTOR CH1/16W 100K	1	
R8150		ERJ3GEYJ225	M.RESISTOR CH1/16W 2.2M	1	
R8151,52		ERJ3GEYJ105	M.RESISTOR CH1/16W 1M	2	
R8501		ERJ3GEYJ223	M.RESISTOR CH1/16W 22K	1	
R8502		ERJ3GEYJ153	M.RESISTOR CH1/16W 15K	1	
R8503		ERJ3GEYJ272	M.RESISTOR CH1/16W 2.7K	1	
R8504		ERJ3GEYJ471	M.RESISTOR CH1/16W 470	1	
R8505		ERJ3GEYJ393	M.RESISTOR CH1/16W 39K	1	
R8506		ERJ3GEYJ223	M.RESISTOR CH1/16W 22K	1	
R8507,08		ERJ3GEYJ561	M.RESISTOR CH1/16W 560	2	
R8509		ERJ3GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R8510		ERJ3GEYJ122	M.RESISTOR CH1/16W 1.2K	1	
R8511		ERJ3GEYJ681	M.RESISTOR CH1/16W 680	1	
R8512		ERJ3GEYJ223	M.RESISTOR CH1/16W 22K	1	
R8513		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	1	
R8514		ERJ3GEYJ154	M.RESISTOR CH1/16W 150K	1	
R8515		ERJ3GEYJ272	M.RESISTOR CH1/16W 2.7K	1	
R8516		ERJ3GEYJ821	M.RESISTOR CH1/16W 820	1	
R8517		ERJ3GEYJ473	M.RESISTOR CH1/16W 47K	1	
R8518		ERJ3GEYJ101	M.RESISTOR CH1/16W 100	1	
R8519		ERJ3GEYJ104	M.RESISTOR CH1/16W 100K	1	
R8520		ERJ3GEYJ123	M.RESISTOR CH1/16W 12K	1	
R8521		ERJ3GEYJ391	M.RESISTOR CH1/16W 390	1	
R8522		ERJ3GEYJ332	M.RESISTOR CH1/16W 3.3K	1	
R8523		ERJ3GEYJ152	M.RESISTOR CH1/16W 1.5K	1	
R8524		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R8525		ERJ3GEYJ123	M.RESISTOR CH1/16W 12K	1	
R8526		ERJ3GEYJ223	M.RESISTOR CH1/16W 22K	1	
R8527,28		ERJ3GEYJ681	M.RESISTOR CH1/16W 680	2	
R8529		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R8530		ERJ3GEYJ221	M.RESISTOR CH1/16W 220	1	
R8531		ERJ3GEYJ473	M.RESISTOR CH1/16W 47K	1	
R8532		ERJ3GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R8533		ERJ3GEYJ221	M.RESISTOR CH1/16W 220	1	
R8533		ERJ3GEYJ473	M.RESISTOR CH1/16W 47K	1	
R8534		ERJ3GEYJ393	M.RESISTOR CH1/16W 39K	1	
R8535		ERJ3GEYJ392	M.RESISTOR CH1/16W 3.9K	1	
R8536		ERJ3GEYJ391	M.RESISTOR CH1/16W 390	1	
R8537-40		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	4	
R8541		ERJ3GEYJ393	M.RESISTOR CH1/16W 39K	1	
R8542		ERJ3GEYJ473	M.RESISTOR CH1/16W 47K	1	
R8543		ERJ3GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R8544		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	1	
R8545		ERJ3GEYJ681	M.RESISTOR CH1/16W 680	1	
R8546		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R8547		ERJ3GEYJ122	M.RESISTOR CH1/16W 1.2K	1	
R8548		ERJ3GEYJ822	M.RESISTOR CH1/16W 8.2K	1	
R8549		ERJ3GEYJ223	M.RESISTOR CH1/16W 22K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R8550,51		ERJ3GEYJ681	M.RESISTOR CH1/16W 680	2	
R8552		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R8553		ERJ3GEYJ221	M.RESISTOR CH1/16W 220	1	
R8554		ERJ3GEYJ561	M.RESISTOR CH1/16W 560	1	
R8555		ERJ3GEYJ122	M.RESISTOR CH1/16W 1.2K	1	
R8556		ERJ3GEYJ683	M.RESISTOR CH1/16W 68K	1	
R8557		ERJ3GEYJ333	M.RESISTOR CH1/16W 33K	1	
R8558		ERJ3GEYJ393	M.RESISTOR CH1/16W 39K	1	
R8559		ERJ3GEYJ473	M.RESISTOR CH1/16W 47K	1	
R8560		ERJ3GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R8561		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	1	
R8562		ERJ3GEYJ681	M.RESISTOR CH1/16W 680	1	
R8563		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R8564		ERJ3GEYJ122	M.RESISTOR CH1/16W 1.2K	1	
R8565		ERJ3GEYJ822	M.RESISTOR CH1/16W 8.2K	1	
R8566		ERJ3GEYJ223	M.RESISTOR CH1/16W 22K	1	
R8567,68		ERJ3GEYJ681	M.RESISTOR CH1/16W 680	2	
R8569		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R8570,71		ERJ3GEYJ221	M.RESISTOR CH1/16W 220	2	
R8572		ERJ3GEYJ561	M.RESISTOR CH1/16W 560	1	
R8573		ERJ3GEYJ122	M.RESISTOR CH1/16W 1.2K	1	
R8574,75		ERJ3GEYJ105	M.RESISTOR CH1/16W 1M	2	
VR3001,02		EVM7JSX30B23	V.RESISTOR 2K	2	
VR3003,04		EVM7JSX30B13	V.RESISTOR 1K	2	
VR3005		EVM7JSX30B14	V.RESISTOR 10K	1	
VR3006		EVM7JSX30B24	V.RESISTOR 20K	1	
VR3007		EVM7JSX30B54	V.RESISTOR 50K	1	
VR3008		EVM7JSX30B52	V.RESISTOR 500	1	
VR3009		EVM7JSX30B13	V.RESISTOR 1K	1	
VR3010,11		EVM7JSX30B23	V.RESISTOR 2K	2	
VR3012		EVM7JSX30B52	V.RESISTOR 500	1	
VR8001		EVM7JSX30B13	V.RESISTOR 1K	1	
VR8002		EVM7JSX30B14	V.RESISTOR 10K	1	
VR8003		EVM7JSX30B15	V.RESISTOR 100K	1	
VR8007		EVM7JSX30B24	V.RESISTOR 20K	1	
VR8501		EVM7JSX30B23	V.RESISTOR 2K	1	
VR8502		EVM7JSX30B54	V.RESISTOR 50K	1	
VR8503		EVM7JSX30B13	V.RESISTOR 1K	1	
VR8504		EVM7JSX30B14	V.RESISTOR 10K	1	
X8001		VSX0188	CHRISTAL OSCILLATOR	1	
			MISCELLANEOUS		
		VMZ1642	BARRIER	1	
	■	VEP02349A	DRIVE C.B.A.		(NLA)
			CAPACITORS		
C2602-04		ECEA1EKK4R7L	E.CAPACITOR 25V 4.7U	3	
C2605,06		ECEA0JKS470	E.CAPACITOR 6.3V 47U	2	
C2607-09		ECEA1EKK4R7L	E.CAPACITOR 25V 4.7U	3	
C2610		ECEA1CKS470	E.CAPACITOR 16V 47U	1	
C2611		ECEA1CKK100	E.CAPACITOR 16V 10U	1	
C2612		ECEA0JKS220	E.CAPACITOR 6.3V 22U	1	
C2613-15		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	3	
C2616		ECUM1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C2617-19		ECUM1C104ZFV	C.CAPACITOR CH 16V 0.1U	3	
C2620-22		ECUM1C333ZFV	C.CAPACITOR CH 16V 0.033U	3	
C2623		ECUM1H221JV	C.CAPACITOR CH 50V 220P	1	
C2624,25		ECUM1C104ZFV	C.CAPACITOR CH 16V 0.1U	2	
C2626		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C2627		ECUM1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C2628		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C2629		ECUM1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C2630		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C2631		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C2632		ECEA1CKS470	E.CAPACITOR 16V 47U	1	
D2601		MA151K	DIODE	1	
IC2601		BA6456FS	IC	1	
IC2602		AN3819FBS	IC	1	
IC2603		TDM3700TP1	IC	1	
IC2604,05		ON2170LF	IC	2	
P2601		VJP2794	CONNECTOR	1	
P2602		VJS2582B015	CONNECTOR (FEMALE)	1	
P2603		VJS2325	CONNECTOR	1	
P2604,05		VJP2271	CONNECTOR (MALE)	2	
P2606		VJP2260	CONNECTOR (MALE)	1	
Q2601		2SD1819	TRANSISTOR	1	
			RESISTORS		
R2601		ERJ3GEYJ331	M.RESISTOR CH1/16W 330	1	
R2602		ERJ3GEYJ104	M.RESISTOR CH1/16W 100K	1	
R2603		ERJ3GEYJ123	M.RESISTOR CH1/16W 12K	1	
R2604		ERJ3GEYJ333	M.RESISTOR CH1/16W 33K	1	
R2605		ERJ12YJR68H	M.RESISTOR 1/2W 0.68	1	
R2606-08		ERJ8GCYK4R7	M.RESISTOR CH 1/8W 4.7	3	
R2609		ERJ3GEYJ221	M.RESISTOR CH1/16W 220	1	
R2610		ERJ3GEYJ101	M.RESISTOR CH1/16W 100	1	
R2611		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R2612		ERJ3GEYJ471	M.RESISTOR CH1/16W 470	1	
R2613		ERJ3GEYJ121	M.RESISTOR CH1/16W 120	1	
R2614		ERJ3GEYJ274	M.RESISTOR CH1/16W 270K	1	
R2615		ERJ3GEYJ104	M.RESISTOR CH1/16W 100K	1	
R2616		ERJ8GCYJR33	M.RESISTOR CH 1/8W 0.33	1	
R2617		ERJ3GEYJ392	M.RESISTOR CH1/16W 3.9K	1	
R2618		ERJ3GEYJ104	M.RESISTOR CH1/16W 100K	1	
R2619,20		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	2	
R2621		ERJ3GEYJ331	M.RESISTOR CH1/16W 330	1	
R2630		ERJ8GCYJ101	M.RESISTOR CH 1/8W 100	1	
			MISCELLANEOUS		
		VMD1275	REEL SENSOR HOLDER	1	
		VMD1437	SENSOR HOLDER	1	
		VMZ1092	BARRIER	1	
	■	VEP04306A	HI-FI AUDIO C.B.A.		(NLA)
			CAPACITORS		
C4501		ECEA1CKA101	E.CAPACITOR 16V 100U	1	
C4502,03		ECEA1VKG6R8	E.CAPACITOR 35V 6.8U	2	
C4504		ECUM1E223KBN	C.CAPACITOR CH 25V 0.023U	1	
C4505		ECEA1EKK4R7L	E.CAPACITOR 25V 4.7U	1	
C4506		ECUM1H222KBV	C.CAPACITOR CH 50V 2200P	1	
C4507		ECEA0JSN470	E.CAPACITOR 6.3V 47U	1	
C4508		ECEA1CSN220	E.CAPACITOR 16V 22U	1	
C4509		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C4510		ECEA1VSN2R2	E.CAPACITOR 35V 2.2U	1	
C4511		ECEA1CKK100	E.CAPACITOR 16V 10U	1	
C4512		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C4513		ECEA1CKK100	E.CAPACITOR 16V 10U	1	
C4514		ECEA1EKK4R7L	E.CAPACITOR 25V 4.7U	1	
C4515		ECEA1EKK3R3L	E.CAPACITOR 25V 3.3U	1	
C4516		ECEA0GKS101	E.CAPACITOR 100U	1	
C4517		ECEA1CKS470	E.CAPACITOR 16V 47U	1	
C4518		ECEA1EKK2R2L	E.CAPACITOR 25V 2.2U	1	
C4519		ECEA1HKK010L	E.CAPACITOR 50V 1U	1	
C4520		ECEA1EKK3R3L	E.CAPACITOR 25V 3.3U	1	
C4521		ECEA1CKK100	E.CAPACITOR 16V 10U	1	
C4522		ECEA1EKK4R7L	E.CAPACITOR 25V 4.7U	1	
C4523		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C4524		ECEA1CSE680	E.CAPACITOR 16V 68U	1	
C4525		ECEA1VSN2R2	E.CAPACITOR 35V 2.2U	1	
C4526		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C4527		ECEA1CSN220	E.CAPACITOR 16V 22U	1	
C4528		ECEA0JSN470	E.CAPACITOR 6.3V 47U	1	
C4529		ECUM1H222KBV	C.CAPACITOR CH 50V 2200P	1	
C4530		ECEA1EKK4R7L	E.CAPACITOR 25V 4.7U	1	
C4531		ECUM1E223KBN	C.CAPACITOR CH 25V 0.023U	1	
C4532,33		ECEA1EKK3R3L	E.CAPACITOR 25V 3.3U	2	
C4534		ECEA1HKK010L	E.CAPACITOR 50V 1U	1	
C4535		ECUM1H222KBV	C.CAPACITOR CH 50V 2200P	1	
C4536		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C4537,38		ECEA1EKK4R7L	E.CAPACITOR 25V 4.7U	2	
C4539-41		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	3	
C4542		ECUM1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C4543		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C4544,45		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C4546		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C4547		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C4548		ECUM1H271JV	C.CAPACITOR CH 50V 270P	1	
C4549,50		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C4551,52		ECEA1EKK4R7L	E.CAPACITOR 25V 4.7U	2	
C4553		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C4554		ECUM1H222KBV	C.CAPACITOR CH 50V 2200P	1	
C4555,56		ECUM1H560JCV	C.CAPACITOR CH 50V 56P	2	
C4557,58		ECEA1HKK010L	E.CAPACITOR 50V 1U	2	
C4559		ECEA1CKS470	E.CAPACITOR 16V 47U	1	
C4560		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C4561,62		ECEA0JKA101	E.CAPACITOR 6.3V 100U	2	
C4563		ECEA1CKS470	E.CAPACITOR 16V 47U	1	
C4564		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C4565,66		ECUM1C105ZFM	C.CAPACITOR CH 16V 1U	2	
C4567,68		ECUM1H101JV	C.CAPACITOR CH 50V 100P	2	
C4569		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C4570		ECEA0JKS101	E.CAPACITOR 6.3V 100U	1	
C4571		ECEA1EKK4R7L	E.CAPACITOR 25V 4.7U	1	
C4572		ECUM1E103KBN	C.CAPACITOR CH 25V 0.01U	1	
C4573		ECEA1CKA101	E.CAPACITOR 16V 100U	1	
C4574		ECEA1CKK100	E.CAPACITOR 16V 10U	1	
C4575		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C4576		ECEA1CKK100	E.CAPACITOR 16V 10U	1	
C4577		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C4578		ECEA1EKK4R7L	E.CAPACITOR 25V 4.7U	1	
C4579		ECEA1HKK010L	E.CAPACITOR 50V 1U	1	
C4580		ECEA1CKS470	E.CAPACITOR 16V 47U	1	
C4581		ECEA1EKK3R3L	E.CAPACITOR 25V 3.3U	1	
C4582		ECEA1EKK2R2L	E.CAPACITOR 25V 2.2U	1	
C4583		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C4585		ECUM1H330JCV	C.CAPACITOR CH 50V 33P	1	
C4586		ECUM1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C4587		ECEA1CKK100	E.CAPACITOR 16V 10U	1	
C4588		ECUM1H330JCV	C.CAPACITOR CH 50V 33P	1	
C4589		ECUM1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C4590,91		ECEA1HKK010L	E.CAPACITOR 50V 1U	2	
C4593		ECUM1H390JCV	C.CAPACITOR CH 50V 39P	1	
C4597,98		ECUM1H272KBV	C.CAPACITOR CH 50V 2700U	2	
C4599,00		ECEA1CKK100	E.CAPACITOR 16V 10U	2	
C4601,02		ECEA1AKA330L	E.CAPACITOR 10V 33U	2	
C4603,04		ECEA0JKA101	E.CAPACITOR 6.3V 100U	2	
C4605		ECEA1CKA101	E.CAPACITOR 16V 100U	1	
D4501,02		MA141K	DIODE	2	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
D4503		DAN202U	DIODE	1	
D4504,05		MA141K	DIODE	2	
D4506		DAP202U	DIODE	1	
D4507		DAN202U	DIODE	1	
D4509		MA141K	DIODE	1	
D4511		DA204U	DIODE	1	
D4512		MA715	DIODE	1	
D4513,14		MA157	DIODE	2	
D4515		MA3056	DIODE	1	
D4516		MA715	DIODE	1	
D4517		MA3056	DIODE	1	
FL4501		VLF0736	FILTER	1	
FL4502		VLF0735	FILTER	1	
IC4501		AN3972FB	IC	1	
IC4502		AN3932S	IC	1	
IC4503		BA3308	IC	1	
IC4504		NJM3415M	IC	1	
IC4505		TC4S66FTE85L	IC	1	
IC4506		UPC78L05J	IC	1	
L4504,05		VLQEL05F101K	COIL 100UH	2	
L4506		VLQEL05F560K	COIL 56UH	1	
P4501		VJP2793	CONNECTOR	1	
P4502		VJP1610T	CONNECTOR	1	
Q4501		2SD1328	TRANSISTOR CHIP	1	
Q4502		2SB1218	TRANSISTOR	1	
Q4503		2SD1328	TRANSISTOR CHIP	1	
Q4504		2SB1218	TRANSISTOR	1	
Q4505,06		2SD1819	TRANSISTOR	2	
Q4507,08		2SD1328	TRANSISTOR CHIP	2	
Q4509-11		2SD1819	TRANSISTOR	3	
Q4512,13		2SA1531	TRANSISTOR	2	
Q4514-16		2SD1819	TRANSISTOR	3	
Q4518		2SD1819	TRANSISTOR	1	
Q4520		2SB1218	TRANSISTOR	1	
Q4521		2SB956	TRANSISTOR	1	
QR4501		GA1L4M	TRANSISTOR-RESISTOR	1	
QR4502		GN1L4M	TRANSISTOR-RESISTOR	1	
QR4503		GA1L4M	TRANSISTOR-RESISTOR	1	
QR4504		FMW1	TRANSISTOR-RESISTOR	1	
QR4505		GA1F4Z	TRANSISTOR-RESISTOR	1	
QR4506		GA1L4M	TRANSISTOR-RESISTOR	1	
QR4511,12		GA1L4M	TRANSISTOR-RESISTOR	2	
QR4513		XN4501	TRANSISTOR-RESISTOR	1	
QR4514		XN4401	TRANSISTOR-RESISTOR	1	
			RESISTORS		
R4501		ERJ3GEYJ333	M.RESISTOR CH1/16W 33K	1	
R4502		ERJ3GEYJ561	M.RESISTOR CH1/16W 560	1	
R4503		ERJ3GEYJ472	M.RESISTOR CH1/16W 4.7K	1	
R4504,05		ERJ3GEYJ333	M.RESISTOR CH1/16W 33K	2	
R4506		ERJ3GEYJ105	M.RESISTOR CH1/16W 1M	1	
R4507		ERJ3GEYJ224	M.RESISTOR CH1/16W 220K	1	
R4508		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	1	
R4509		ERJ3GEYJ681	M.RESISTOR CH1/16W 680	1	
R4510		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R4511		ERJ3GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R4512		ERJ3GEYJ152	M.RESISTOR CH1/16W 1.5K	1	
R4513		ERJ3GEYJ473	M.RESISTOR CH1/16W 47K	1	
R4514,15		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	2	
R4516		ERJ3GEYJ224	M.RESISTOR CH1/16W 220K	1	
R4517		ERJ3GEYJ273	M.RESISTOR CH1/16W 27K	1	
R4518		ERJ3GEYJ682	M.RESISTOR CH1/16W 6.8K	1	
R4519		ERJ3GEYJ152	M.RESISTOR CH1/16W 1.5K	1	
R4520		ERJ3GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R4521		VRE0034E123	M.RESISTOR CH 1/10W 12K	1	
R4522		ERJ3GEYJ272	M.RESISTOR CH1/16W 2.7K	1	
R4523		ERJ3GEYJ334	M.RESISTOR CH1/16W 330K	1	
R4524		ERJ3GEY0R00	M.RESISTOR CH1/16W 0.00	1	
R4525		VSF0014A08	IC PROTECTOR	1	
R4526		ERJ3GEYJ332	M.RESISTOR CH1/16W 3.3K	1	
R4527		ERJ6GMYJ104	M.RESISTOR CH 1/10W 100K	1	
R4528		ERJ3GEYJ472	M.RESISTOR CH1/16W 4.7K	1	
R4529		ERJ3GEYJ105	M.RESISTOR CH1/16W 1M	1	
R4530,31		ERJ3GEYJ333	M.RESISTOR CH1/16W 33K	2	
R4532		ERJ3GEYJ561	M.RESISTOR CH1/16W 560	1	
R4533		ERJ3GEYJ393	M.RESISTOR CH1/16W 39K	1	
R4534		ERJ3GEYJ272	M.RESISTOR CH1/16W 2.7K	1	
R4535		ERJ3GEYJ474	M.RESISTOR CH1/16W 470K	1	
R4536,37		ERJ3GEYJ104	M.RESISTOR CH1/16W 100K	2	
R4538		ERJ3GEYJ474	M.RESISTOR CH1/16W 470K	1	
R4539		ERJ3GEYJ272	M.RESISTOR CH1/16W 2.7K	1	
R4540		ERJ3GEYJ393	M.RESISTOR CH1/16W 39K	1	
R4541,42		ERJ3GEYJ822	M.RESISTOR CH1/16W 8.2K	2	
R4543-46		ERJ3GEYJ562	M.RESISTOR CH1/16W 5.6K	4	
R4547		ERJ8GCYJ121	M.RESISTOR CH 1/8W 120	1	
R4548		ERJ8GCYJ101	M.RESISTOR CH 1/8W 100	1	
R4549		ERJ8GCYJ121	M.RESISTOR CH 1/8W 120	1	
R4550		ERJ3GEY0R00	M.RESISTOR CH1/16W 0.00	1	
R4551		ERJ3GEYJ272	M.RESISTOR CH1/16W 2.7K	1	
R4552		ERJ3GEYJ332	M.RESISTOR CH1/16W 3.3K	1	
R4553		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	1	
R4556,57		ERJ3GEYJ224	M.RESISTOR CH1/16W 220K	2	
R4558		ERJ3GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R4559		ERJ3GEYJ682	M.RESISTOR CH1/16W 6.8K	1	
R4560		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R4561		ERJ3GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R4562		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R4563		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	1	
R4565		ERJ3GEYJ393	M.RESISTOR CH1/16W 39K	1	
R4566		ERJ3GEY0R00	M.RESISTOR CH1/16W 0.00	1	
R4567		ERJ3GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R4568		ERJ3GEYJ393	M.RESISTOR CH1/16W 39K	1	
R4569		ERJ3GEYJ221	M.RESISTOR CH1/16W 220	1	
R4570,71		ERJ3GEYJ153	M.RESISTOR CH1/16W 15K	2	
R4572		ERJ3GEYJ221	M.RESISTOR CH1/16W 220	1	
R4573		ERJ3GEYJ271	M.RESISTOR CH1/16W 270	1	
R4574		ERJ3GEYJ393	M.RESISTOR CH1/16W 39K	1	
R4575		ERJ3GEYJ332	M.RESISTOR CH1/16W 3.3K	1	
R4576		ERJ3GEYJ273	M.RESISTOR CH1/16W 27K	1	
R4577		ERJ3GEYJ473	M.RESISTOR CH1/16W 47K	1	
R4578		ERJ3GEYJ332	M.RESISTOR CH1/16W 3.3K	1	
R4579		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	1	
R4580		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R4581		ERJ3GEYJ472	M.RESISTOR CH1/16W 4.7K	1	
R4582,83		ERJ3GEYJ562	M.RESISTOR CH1/16W 5.6K	2	
R4584		ERJ3GEYJ272	M.RESISTOR CH1/16W 2.7K	1	
R4585,86		ERJ3GEYJ273	M.RESISTOR CH1/16W 27K	2	
R4587		ERJ3GEYJ564	M.RESISTOR CH1/16W 560K	1	
R4588		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R4589		ERJ3GEYJ122	M.RESISTOR CH1/16W 1.2K	1	
R4590		VRE0034E123	M.RESISTOR CH 1/10W 12K	1	
R4591		VRE0034E223	M.RESISTOR CH 1/10W 22K	1	
R4592		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	1	
R4593		ERJ3GEYJ472	M.RESISTOR CH1/16W 4.7K	1	
R4594		ERJ3GEYJ272	M.RESISTOR CH1/16W 2.7K	1	
R4596		ERJ3GEYJ563	M.RESISTOR CH1/16W 56K	1	
R4597		ERJ3GEYJ105	M.RESISTOR CH1/16W 1M	1	
R4598		ERJ8GCYJ221	M.RESISTOR CH 1/8W 220	1	
R4599		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	1	
R4600		ERJ3GEYJ124	M.RESISTOR CH1/16W 120K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R4601,02		ERJ3GEYJ154	M.RESISTOR CH1/16W 150K	2	
R4604		ERJ3GEYJ122	M.RESISTOR CH1/16W 1.2K	1	
R4605		ERJ3GEYJ392	M.RESISTOR CH1/16W 3.9K	1	
R4606		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	1	
R4607		ERJ3GEYJ272	M.RESISTOR CH1/16W 2.7K	1	
R4608		ERJ3GEYJ332	M.RESISTOR CH1/16W 3.3K	1	
R4610		ERJ3GEYJ391	M.RESISTOR CH1/16W 390	1	
R4612		ERJ3GEYJ334	M.RESISTOR CH1/16W 330K	1	
R4613		ERJ3GEYJ224	M.RESISTOR CH1/16W 220K	1	
R4614		ERJ3GEYJ473	M.RESISTOR CH1/16W 47K	1	
R4616,17		ERJ3GEYJ123	M.RESISTOR CH1/16W 12K	2	
R4622,23		ERJ3GEYJ473	M.RESISTOR CH1/16W 47K	2	
R4624-27		ERJ3GEYJ104	M.RESISTOR CH1/16W 100K	4	
R4628,29		ERJ3GEYJ473	M.RESISTOR CH1/16W 47K	2	
R4630,31		ERJ3GEYJ221	M.RESISTOR CH1/16W 220	2	
R4632,33		ERJ3GEYJ122	M.RESISTOR CH1/16W 1.2K	2	
R4634,35		ERJ3GEYJ333	M.RESISTOR CH1/16W 33K	2	
R4636,37		ERJ3GEYJ222	M.RESISTOR CH1/16W 2.2K	2	
R4638,39		ERJ3GEYJ473	M.RESISTOR CH1/16W 47K	2	
R4640		ERJ3GEYJ123	M.RESISTOR CH1/16W 12K	1	
VR4501,02		EVM7JSX30B14	V.RESISTOR 10K	2	
VR4503		EVM7JSX30B23	V.RESISTOR 2K	1	
VR4504		EVM7JSX30B24	V.RESISTOR 20K	1	
VR4505		EVM7JSX30B54	V.RESISTOR 50K	1	
VR4507		EVM7JSX30B14	V.RESISTOR 10K	1	
VR4508		EVM7JSX30B24	V.RESISTOR 20K	1	
VR4509		EVM7JSX30B53	V.RESISTOR 5K	1	
	■	VEP05161A	VIDEO HEAD AMP C.B.A.		(NLA)
			CAPACITORS		
C5001		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C5002		ECUM1H183KBN	C.CAPACITOR CH 50V 0.018U	1	
C5003		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C5004		ECUM1H183KBN	C.CAPACITOR CH 50V 0.018U	1	
C5005		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C5006		ECEA1CKS470	E.CAPACITOR 16V 47U	1	
C5007		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C5008		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C5009		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C5010		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C5011		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C5013		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C5014		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C5016,17		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C5019		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C5020		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C5022,23		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	2	
C5025		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C5028-30		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	3	
C5031		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C5033		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C5034		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C5035,36		ECUM1H103KBV	C.CAPACITOR CH 50V 0.01U	2	
C5037		ECUM1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C5038		ECUM1H151JV	C.CAPACITOR CH 50V 150P	1	
C5039		ECUM1H121JCV	C.CAPACITOR CH 50V 120P	1	
C5040		ECUM1H390JCV	C.CAPACITOR CH 50V 39P	1	
C5041-44		ECUM1H103KBV	C.CAPACITOR CH 50V 0.01U	4	
IC5001		AN3347FBP	IC	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
L5001-03		VLQ0319K101	COIL 100UH	3	
L5004		VLQ0163K100	COIL 10UH	1	
L5005		VLQ0163K120	COIL 12UH	1	
P5001		VJP2245	CONNECTOR (MALE)	1	
P5002		VJS2236T	CONNECTOR (FEMALE)	1	
P5003		VJP2260	CONNECTOR (MALE)	1	
Q5001		2SB1218	TRANSISTOR	1	
Q5002		2SA812	TRANSISTOR	1	
Q5003		2SA1175	TRANSISTOR	1	
Q5004,05		XN4504	TRANSISTOR-RESISTOR	2	
QR5002,03		FMG1	TRANSISTOR-RESISTOR	2	
			RESISTORS		
R5001		ERJ3GEYJ152	M.RESISTOR CH 3W 1.5K	1	
R5002		ERJ3GEYJ822	M.RESISTOR CH 3W 8.2K	1	
R5003-05		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	3	
R5006		ERJ3GEY0R00	M.RESISTOR CH1/16W 0.00	1	
R5007		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R5009		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	1	
R5010		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R5011,12		ERJ3GEYJ100	M.RESISTOR CH1/16W 10	2	
R5013,14		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	2	
R5015,16		ERJ3GEYJ100	M.RESISTOR CH1/16W 10	2	
R5017,18		ERJ3GEYJ681	M.RESISTOR CH1/16W 680	2	
R5019		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R5020		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	1	
R5021-24		ERJ3GEYJ333	M.RESISTOR CH1/16W 33K	4	
R5025		ERJ3GEYJ393	M.RESISTOR CH1/16W 39K	1	
R5026		ERJ3GEYJ822	M.RESISTOR CH1/16W 8.2K	1	
R5027		ERJ3GEYJ271	M.RESISTOR CH1/16W 270	1	
R5028		ERJ3GEYJ391	M.RESISTOR CH1/16W 390	1	
R5031-34		ERJ3GEYJ472	M.RESISTOR CH1/16W 4.7K	4	
R5035-38		ERJ3GEYJ223	M.RESISTOR CH1/16W 22K	4	
R5040		ERJ8GCYJ4R7	M.RESISTOR CH 1/8W 4.7	1	
R5041,42		ERJ3GEYJ681	M.RESISTOR CH1/16W 680	2	
R5043		ERJ3GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
			MISCECLLANEOUS		
		VMZ1534	BARRIER	1	
		VSC2946	SHIELD BOX	1	
	■	VEP05153A	HI-FI AUDIO HEAD AMP C.B.A.		(NLA)
			CAPACITORS		
C5501		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C5502		ECUM1H472KBN	C.CAPACITOR CH 50V 4700P	1	
C5503		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C5504		ECUM1H472KBN	C.CAPACITOR CH 50V 4700P	1	
C5505		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C5506		ECEA1CKS470	E.CAPACITOR 16V 47U	1	
C5507		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C5508		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C5509		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C5510		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C5512		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C5513		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C5514,15		ECUM1H102KBV	C.CAPACITOR CH 50V 1000P	2	
C5516		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C5517		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C5519		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C5520		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C5521		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C5522		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C5523,24		ECUM1H102KBV	C.CAPACITOR CH 50V 1000P	2	
C5525-27		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	3	
C5528		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C5529		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C5530		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C5531		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C5532-35		ECUM1E333KBN	C.CAPACITOR CH 25V 0.033U	4	
C5536		ECUM1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
D5501,02		MA141WA	DIODE	2	
IC5501		AN3347FBP	IC	1	
L5501-03		VLQ0319K101	COIL 100UH	3	
P5501		VJS2123	CONNECTOR (FEMALE)	1	
P5502		VJS2117	CONNECTOR	1	
P5503		VJP2271	CONNECTOR (MALE)	1	
Q5502,03		XN4504	TRANSISTOR-RESISTOR	2	
QR5502,03		FMG1	TRANSISTOR-RESISTOR	2	
			RESISTORS		
R5501		ERJ3GEYJ152	M.RESISTOR CH1/16W 1.5K	1	
R5502		ERJ3GEYJ822	M.RESISTOR CH1/16W 8.2K	1	
R5503		ERJ3GEYJ102	M.RESISTOR CH1/16W 1K	1	
R5504		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	1	
R5505		ERJ3GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R5506		ERJ3GEYJ100	M.RESISTOR CH1/16W 10	1	
R5507,08		ERJ3GEYJ681	M.RESISTOR CH1/16W 680	2	
R5509		ERJ3GEYJ100	M.RESISTOR CH1/16W 10	1	
R5510,11		ERJ3GEYJ222	M.RESISTOR CH1/16W 2.2K	2	
R5512,13		ERJ3GEYJ100	M.RESISTOR CH1/16W 10	2	
R5514,15		ERJ3GEYJ681	M.RESISTOR CH1/16W 680	2	
R5516		ERJ3GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R5517		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	1	
R5518-21		ERJ3GEYJ333	M.RESISTOR CH1/16W 33K	4	
R5527		ERJ3GEYJ222	M.RESISTOR CH1/16W 2.2K	1	
R5531-34		ERJ3GEYJ472	M.RESISTOR CH1/16W 4.7K	4	
R5535-38		ERJ3GEYJ223	M.RESISTOR CH1/16W 22K	4	
R5539		ERJ3GEY0R00	M.RESISTOR CH1/16W 0.00	1	
			MISCELLANEOUS		
		VSC2948	SHIELD BOX	1	
	■	VEP06602A	VTR OPERATION C.B.A.		(NLA)

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
D6501		MA3075	DIODE	1	
D6502		MA141K	DIODE	1	
D6503		DAP202U	DIODE	1	
D6505-07		DAP202U	DIODE	3	
D6508		DAN202U	DIODE	1	
D6509,10		DAP202U	DIODE	2	
D6511		PG2222SY-B1	DIODE	1	
P6501		VJP2793	CONNECTOR	1	
P6502		VJS2582B026	CONNECTOR	1	
P6504		VJS2710B014	CONNECTOR	1	
Q6501		IMD2	TRANSISTOR-RESISTOR	1	
			RESISTORS		
R6501		ERJ6GMYJ331	M.RESISTOR CH 1/10W 330	1	
R6502,03		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	2	
R6504		ERJ8GCYJ681	M.RESISTOR CH 1/8W 680	1	
SW6501-08		EVQQFV02K	SWITCH	8	
SW6509		ESD11V120	SWITCH	1	
SW6510-13		EVQQFV02K	SWITCH	4	
SW6517,18		EVQQFV02K	SWITCH	2	
SW6519		ESD11V230	SWITCH	1	
SW6520		ESD11V120	SWITCH	1	
			MISCELLANEOUS		
		VWJ14XW050TT	FLEXIBLE CARD	1	P6504-P6601
	■	VEP06603A	VTR SUB OPERATION C.B.A.		(NLA)
D6601,02		MA165	DIODE	2	
D6603		BR2202S-20	DIODE	1	
D6604-06		MA165	DIODE	3	
D6607		PG2222SY-B1	DIODE	1	
P6601		VJS2582B014	CONNECTOR	1	
			RESISTORS		
R6601		ERDS2TJ331	C.RESISTOR 1/4W 330	1	
R6602		ERDS2TJ102	C.RESISTOR 1/4W 1K	1	
R6603		ERDS2TJ331	C.RESISTOR 1/4W 330	1	
SW6601		EVQ11404M	SWITCH	1	
SW6602		EVQQFQ02K	SWITCH	1	
SW6603		ESD11V120	SWITCH	1	
SW6604		ESD100126	SWITCH	1	
SW6605		ESD11V120	SWITCH	1	
SW6606-08		EVQQFQ02K	SWITCH	3	

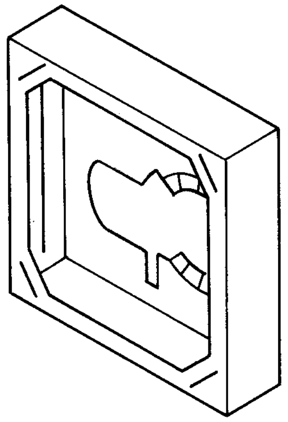
Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
	■	VEP00Q11A	INTERFACE C.B.A.		(NLA)
			CAPACITORS		
C1601		ECUM1H820JV	C.CAPACITOR CH 50V 82P	1	
C1603		ECQV1H823JZ	P.CAPACITOR 50V 0.082U	1	
C1604		ECUM1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
D1621		LN29CALU	DIODE	1	
D1641		BR2202S-20	DIODE	1	
IC1601		MN74HC02S	IC	1	
J1601		VJJ0163	DUBBING JACK	1	
P1601		VJP2265	CONNECTOR (MALE)	1	
P1604		VJP2262	CONNECTOR (MALE)	1	
QR1601		GA1F4Z	TRANSISTOR-RESISTOR	1	
QR1602		GN1L3Z	TRANSISTOR-RESISTOR	1	
QR1603		GA1F4M	TRANSISTOR-RESISTOR	1	
			RESISTORS		
R1601		ERDS2TJ151	C.RESISTOR 1/4W 150	1	
R1602		ERDS2TJ331	C.RESISTOR 1/4W 330	1	
R1603		ERJ3GEYJ101	M.RESISTOR CH1/16W 100	1	
R1604		ERJ3GEYJ182	M.RESISTOR CH1/16W 1.8K	1	
R1605		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	1	
R1606		ERJ3GEYJ473	M.RESISTOR CH1/16W 47K	1	
R1607		ERJ3GEYJ103	M.RESISTOR CH1/16W 10K	1	
SW1641		VSP0148	SWITCH	1	
			MISCELLANEOUS		
		VGQ1918	TERMINAL FOR CHARACTER	1	
			GENERATOR C.B.A.		
		VGQ1600	LED BASE	1	
	■	VEK4852	DC JACK C.B.A.		(NLA)
			CAPACITORS		
C1501		ECEA1CKA101	E.CAPACITOR 16V 100U	1	
D1501		ERB83-004	DIODE	1	
J1501		VJJ0165	DC JACK	1	
J1502		VJJ0243	REMOTO CONTROL JACK	1	
J1503		VJJ0242	HEADPHONE JACK	1	

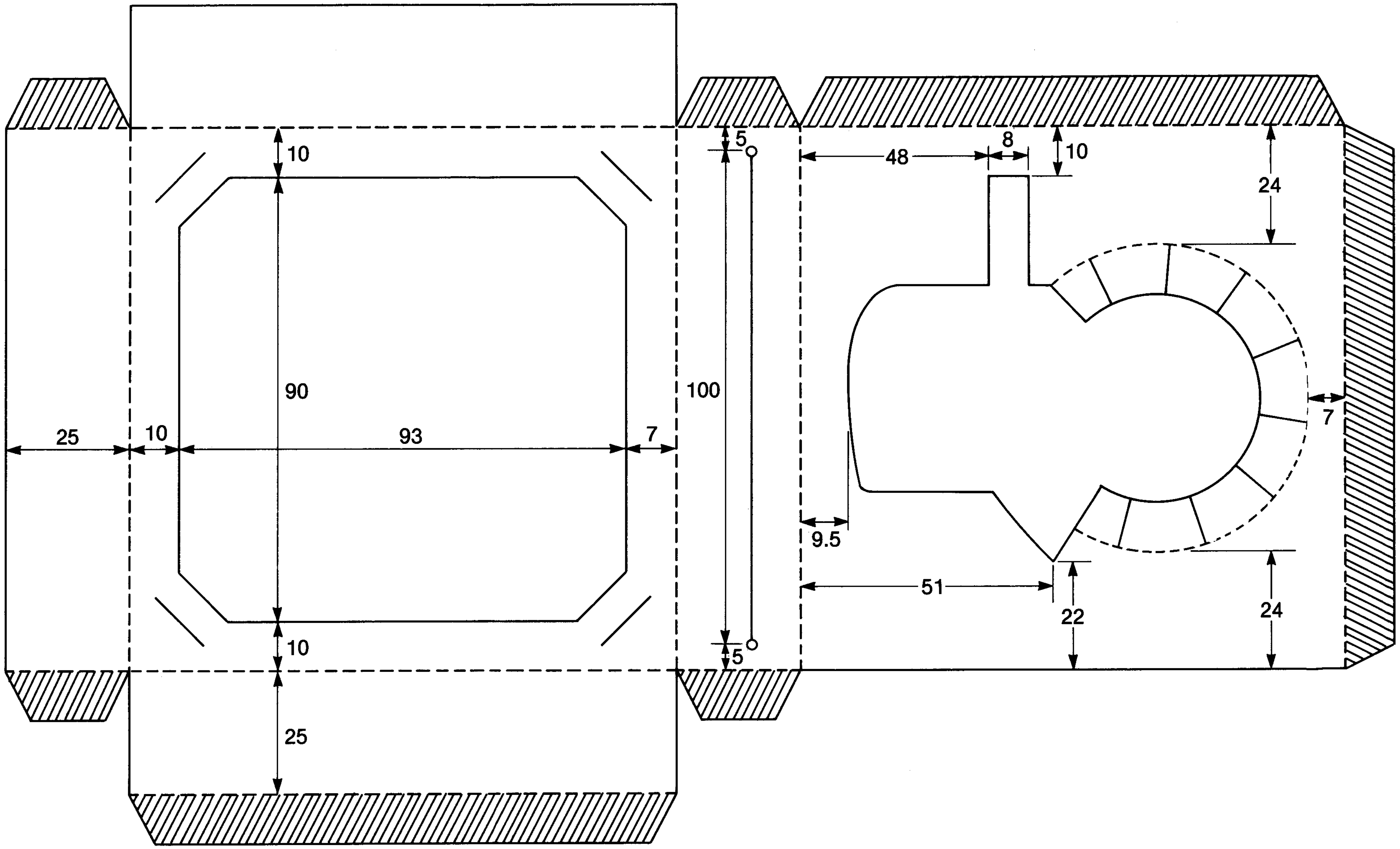
Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			RESISTORS		
R1501		VSF0059	FUSE	1	<!>
	■	VEK4745	AV JACK C.B.A.		(NLA)
			MISCELLANEOUS		
		VJH0554	AV JACK	1	

[Assembling Procedure]

1. Make the photo-copy from Service Manual.
2. Paste the photo-copy and thick paper together.
3. Cut the "——" line.
4. Fold the "---" line.
5. Paste it on the " ▨ " part and assemble it as shown near illustration.

Note: It is better to paint the inside of fixture by black colour to avoide the reflection of light and change of colour temperature.

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NOTE: THIS ILLUSTRATION IS DRAWN BY REAL SIZE